VOLUNTARY INVESTIGATION AND REMEDIATION PLAN

E. Cohn Property (Former)

Columbus, Muscogee County, Georgia

HSI Site No. 10933

Prepared for:	**Central of Georgia Railroad Company**
	1200 Peachtree Street, Atlanta, Georgia 30309
Date:	**September 12, 2016**
Prepared by:	**Amec Foster Wheeler Environment & Infrastructure, Inc.**
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Project No.:	**6123140242**

September 12, 2016

Mr. David Brownlee, Unit Coordinator
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Subject: **Voluntary Remediation Program Application**
Former E Cohn Property - Columbus, Muscogee County, Georgia
HSI Site No. 10933 Parcels 020 008 003 and 020 008 004
Amec Foster Wheeler Project 6123-14-0242

Dear Mr. Brownlee:

On behalf of Central of Georgia Railroad Company, Amec Foster Wheeler Environment & Infrastructure Inc. (Amec Foster Wheeler) hereby submits the attached Voluntary Remediation Program Application to enroll the Former E Cohn Property in Columbus, Georgia in the Voluntary Remediation Program. This Voluntary Remediation Program Application is being submitted in lieu of a Compliance Status Report (CSR).

Please contact us with any questions you may have.

Sincerely,

Amec Foster Wheeler Environment & Infrastructure Inc.

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Enclosure

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1.0 INTRODUCTION

1.1 PURPOSE

This Voluntary Investigation and Remediation Plan (VIRP) is for entering the former E. Cohn Property into the Georgia Voluntary Remediation Program (VRP). The checklist for this Application is provided in Appendix A. The Cohn property site, located at 715 5th Street in Columbus, Muscogee County, Georgia (Figures 1, 2A and 2B) currently consists of two parcels (020 008 003 and 020 008 004) covering approximately 10.7 acres and additional parcels to the north (020 004 001 and 020 004 002). The property is owned by Central of Georgia Railroad Company (COG) and the two parcels (020 008 003 and 020 008 004) were leased to the E. Cohn Company and its predecessors for over forty years. When E. Cohn vacated the property, COG conducted an environmental due diligence and found evidence of impacts to the soil from Cohn's long-term operations. COG submitted a Hazardous Site Response Act (HSRA) release notification, dated March 17, 2015 to the Georgia Environmental Protection Division (EPD). EPD conducted a scoring of the site and listed the Cohn site on the Hazardous Site Inventory (HSI) on September 4, 2015, site number 10933 for the two parcels identified above. Subsequently, on November 5, 2015 Georgia Environmental Protection Division (EPD) called-in a Compliance Status Report (CSR) for the site. The call-in letter also allow for the options of 1) to conduct corrective actions to bring the site into compliance with risk reduction standards and then submit a CSR or 2) enter the site into the VRP. In lieu of submitting a CSR, COG elected to prepare and submit a VIRP to enter the site into the VRP.

1.2 QUALIFYING PROPERTIES AND PARTICIPANT ELGIBILITY

This VRP Application, is for the two parcels (020 008 003 and 020 008 003) located at 715 5th Street in Columbus and for two additional northern parcels (020 004 001 and 020 004 002). COG owns the parcels. Because the four parcels are part of larger property tracts owned by the railroad, the existing deed records are not specific to the four currently-identified tax parcels (Appendix B). Deed records for these parcels are in the process of being obtained and are not included in this VIRP. Based on further delineation investigation, additional parcels may be added and some parcels may be subdivided.

The parcels meet the edibility criteria for the VRP. The four parcels are not listed on the National Priorities List (NPL) and are not currently undergoing response activities required by an order from the USEPA or EPD. The properties do not have a RCRA permit. There are currently no outstanding liens filed against the property.

2.0 SITE BACKGROUND AND HISTORY

2.1 PROPERTY HISTORY

E. Cohn Company and its predecessors leased the two parcels (020 008 003 and 020 008 004) from COG from 1961 until 2014. After E Cohn Company vacated the property in mid-2014, COG conducted an environmental due diligence on the property.

Based on a review of historical sources, the property has been used for scrapping operations since approximately 1961. Both Cohn E Company, listed as a junk yard and scrap yard, and Key Iron and Metal Company, were listed on the site back as far as 1971. Little information on the past usage of the site in terms of materials collected and processed have been provided to COG. Prior to approximately 1961 the property was used as a concrete block storage yard as well as a coal and wood yard (northwest corner) and residential (northeast portion). Cheney-Blackmon, Inc., was identified on the 1929 Sanborn map with several storage tanks on site. Railroad tracks are visible onsite in the 1949 through 1968 aerial photographs. The 1900 Sanborn map indicated no significant use other than a residential structure on the northeast corner of the property. Late 1800's birds-eye view drawings of the area suggest the site was used by the railroad as a roundhouse.

The environmental database report listed the site as a recycling center. Industrial operations were listed on many of the surrounding properties, several of which are potentially upgradient from the subject property.

2.2 ENVIRONMENTAL INVESTIGATIONS

Environmental investigations have been conducted on the subject parcels since 2014 and are described in the following paragraphs.

2.2.1 October 2014 Soil Screening Assessment

On October 6 and 6, 2014, Amec under contract to COG conducted soil screening activities on the property previously occupied by E Cohn Company. It was observed that approximately 5 acres of soil mixed with accumulated foreign material was present on the property and was covered with 6 to 9 inches of fill soil and seeded with grass. The 5-acre area was generally surrounded by bermed material consisting of 3 to 4 feet of soil and debris.

Prior to conducting soil sampling, a utility avoidance survey using ground penetrating radar and other geophysical tools was conducted to identify possible hazards before sampling began at each location. The survey also identified potential fill material and debris in the upper 3 to 4 feet across in the northern half to two thirds of the site (Appendix C).

A total of 22 exploratory soil samples were collected ranging in depth from approximately 2 to 4 feet. Due to the nature of the soil and foreign material mixture, hand auguring could not be extended below 2 feet in most areas. Debris observed consisted of brick, concrete, plastic, wood, rubber, PVC, reinforcement wire, shaved metal, capacitors, circuit boards, springs, and scrap metal pieces. A qualitative and semi-quantitative approach was used to screen soils to

provide COG with real time information relative to the potential of a historical release. It should be noted that the screening tools used for this evaluation have less accuracy and precision than traditional analytical testing and therefore could potentially report false positives. Soil was screened as follows:

- with a photoionization detector (PID) to associate volatile organic compounds (VOCs);
- a flame ionization detector (FID) to associate diesel range organics or gasoline range organics (in combination with PID results);
- an X-ray fluorescence (XRF) monitor to associate select metals;
- a Dexsil® soil kit to associate PCBs;
- a pH field test to associate corrosive or reactive conditions; and
- visual observations for evidence of free product, petroleum staining, etc.

The screening results indicated the property had been impacted with metals, polychlorinated biphenyls (PCBs), and volatile organic compounds (VOCs) from the previously scrapping operations and concentration of constituents of concern which likely exceed HSRA Notification Concentrations.

2.2.2 Test Pit Observations

Test pit excavations were conducted on November 17 and 18, 2014 in an attempt to visually characterize soil believed to contain significant quantities of metallic debris observed in ground penetrating radar activities. The test pit locations (A through K) are shown on Figure 2A. An excavator was used to dig the test pits. Debris observed consisted of brick, concrete, plastic, wood, rubber, PVC, reinforcement wire, shaved metal, capacitors, circuit boards, springs, and scrap metal debris. Munitions debris was observed at two test pit locations.

Soil from the test pits was screened with a photoionization detector (PID) for the relative presence of VOCs and for visual observations for evidence of free product and petroleum staining.

A geophysical survey using ground penetrating radar was used to identify possible hazards before test pit excavations began at each location (Appendix C). The average test pit depth of location A through K was 4.5 feet. A gasoline-like odor was observed at location K which correlated with a detection on the PID of 412 ppm (vapor). Some soil staining was observed at locations A, B, and C, which correlated with a detection on the PID of 1.0 ppm, 0.7 ppm, and 0.5 to 25 ppm (vapor), respectively. Test pit excavation H and F where noted with munitions or ordinance observed foreign material. One object at location H and one object at location F were both observed and confirmed to have no fuses. Both foreign materials located at test pit H and F were retrieved by Columbus Police Department whom contacted Fort Benning Explosives Ordinance Division personnel to pick up the retrieved ordinances. The east berm was walked to look for any more obvious ordinance before departing the site.

During the November 21, 2015 site visit, the fence line on the north and east of the site was identified in poor condition. Fence repairs were completed November 24, 25, 26 and December 1, 2014.

Baseline assessment observations coupled with test pit excavation onsite suggested a 5-acre area generally surrounded by berms consists of an average 4.5 feet depth of soil with foreign material that accumulated over 50 years of scrapping operations.

2.2.3 EPD May 2015 Release Notification Site Visit

COG submitted a Release Notification with the soil screening results on March 17, 2015 for the 10.71-acre property identified as the Former E. Cohn Company located at 715 5th Street Columbus, Muscogee County, Georgia. EPD conducted a Release Notification site inspection to complete the release notification scoring. EPD noted the property was developed with two abandoned one-story structures with the remainder of the property consisting of graded undeveloped land. A chain-link fence and adjacent building walls were present around the entire boundary of the site and all access points were secured and locked. The surrounding property uses consisted of vacant undeveloped land to the north, Fletcher Oil to the west, E&S Furniture Discounter and Thrift Store to the south, railroad lines and a non-operational tank farm to the east. EPD personnel conducted 7 XRF analyzer screenings of the surface soils (0-6 inches) immediately surrounding the fenced site property to determine if any of the onsite surface soil impacts noted within the release notification migrated beyond the site barrier as a result of past operations or surface erosion by wind or water. EPD's XRF screenings detected the following metals above their respective notification concentrations: lead (786 ppm), mercury (30 ppm), arsenic (213 ppm), and barium (664 ppm). Using the Reportable Quantities Screening Method (RQSM), and the Rules for Hazardous Site Response (391-3-19-.05(1)), EPD evaluated the property use, nearest residence, exposure pathways, proximity of water-supply wells, and constituent toxicity to score the site. Groundwater data was not available at the time of the scoring, but the groundwater pathway was evaluated and was determined that the site did not exceed the groundwater pathway threshold criteria. The site did exceed the soil threshold criteria and was recommended to be listed on the HSRA Hazardous Site Inventory.

The site was listed on the Georgia Hazardous Site Inventory on September 4, 2015. The site was listed for metals and PCBs impacts to soil. On November 5, 2015, EPD notified the Central of Georgia Railroad Company that a HSRA Compliance Status Report (CSR) would be required for the site. In their letter, EPD also allowed for the option of first performing corrective action to bring the site into compliance with risk reduction standards (RRS) and then submitting a final CSR during or following completion of corrective action. A second alternative would be to submit a voluntary investigation and remediation plan (VIRP) and enter the site into the Voluntary Remediation Program (VRP). In lieu of submitting a CSR by May 5, 2016, COG elected to enter the site into the VRP with the submittal of this VIRP.

2.2.4 February 2016 Soil Sampling and Analysis

Based on the results of the 2014 soil screening results and the HSI listing, COG conducted additional soil assessment on the site. From February 23 to 29, 2016, a total of 14 soil borings

were advanced to collect soil samples for laboratory analysis. Ten of the soil borings (SB0-01 to SB0-10) were drilled to about 14 feet each. The purpose of this soil investigation was to collect a statically relevant data set of a broad range of constituents to characterize the impacts from historical activities on the site soils. Four of the borings were drilled into groundwater and completed as monitoring wells MW-1 to MW-4 to depths of 37 to 43 feet (Table 1). Soil samples were collected at 0 to 2, 2 to 4, 6 to 8, and 12 to 14 feet and submitted to the laboratory for analysis of metals, PCBs, semi-volatile organic compounds (SVOCs), and VOCs, explosives, and ethylene glycol.

The list of constituents analyzed in 2016 was compiled based on multiple sources including information obtained from USEPA documentation on metal scrapping operations (http://www.epa.gov/reg3hwmd/bf-lr/regional/industry/scrap.htm), the 2014 screening results and the documentation identifying manganese as a common contaminant in metal scrap yards, as well as other background research on salvage industry in general as well as site specific archival information. Evidence of potential un-exploded ordinance (UXO) was encountered on the site during test pitting activities. To evaluate if there was evidence of UXOs on the site, the soil samples were also analyzed for the special constituents of interest list of explosives (USEPA method 8330B). 4-Nitrotoluene was the only constituent detected from the USEPA method 8330B constituent list and its sole detection is not an indicator of the presence of UXOs (Appendix E). Perchlorate, which is associated with rocket motors, was not analyzed because the UXO evidence did not indicate the presence of rocket motors.

During the February 2016 investigation, 34 surface soil and 35 subsurface soils were analyzed for a total of 167 constituents (VOCs, SVOCs, metals, PCBs, explosives, ethylene glycol). Ethylene glycol was analyzed for the presence of anti-freeze from the scrapping operation and was not detected (Appendix E). Manganese was ubiquitous in the soil samples, but is not a HSRA-regulated compound. Out of the 167 constituents, the list was focused to 65 constituents that had been detected and/or had concentrations above HSRA notification concentrations. These 65 constituents were analyzed in subsequent investigations. The results are summarized on Tables 2 and 3.

2.2.5 Monitoring Well Installation

Monitoring wells MW-1 to MW-4 were installed on February 23 to 25, 2016 at locations shown on Figure 2A. The wells were constructed with 2-inch diameter PVC with 10 feet of screen, sand pack, bentonite seal, grout seal, concrete pad and a locking post-type protective cover (Appendix D). The wells were surveyed on May 11, 2016 for horizontal location and top of casing elevations (Table 1). The wells were sampled on April 11, 2016 for total and dissolved metals, PCBs, SVOCs, VOCs, explosives, and ethylene glycol. The results of the analyses are presented on Table 4.

2.2.6 June 2016 Soil Investigation

Based on the results of the February 2016 soil sampling and analysis, additional soil investigation was conducted on June 21 to 23, 2016 with the intention of delineating soils exceeding RRS in the February 2016 investigation. Shallow soil borings (DT-01 to DT-12) were

advanced to about 4 feet in depth at locations shown on Figure 2A to further investigate the extent of the previously detected constituents of concern (COCs). Transects extending from previous soil sampling locations with known RRS exceedances were laid out along the ground surface. Soil samples were collected along the transects and screened in the field using a PID meter and XRF. Soil samples that did not have a positive indication of the presence of COCs were collected for laboratory analysis to confirm constituent concentrations. The results of the DT samples are presented on Tables 2 and 3.

Background Metals Study

Laboratory data indicates metals are the primary COCs for the site. Also during the June 2016 soil investigation, a soils metals background study was conducted. Soil borings were advanced at locations shown on Figure 2B that should not have been impacted by site activities. Ten soil borings were advanced to 4 feet total depth and soil samples were collected for laboratory analysis at 0 to 2 and 2 to 4 feet and analyzed for metals. The data was statistically evaluated to derive the soil metals background concentrations for the site. The evaluation is described below.

The soil background data were evaluated using USEPA's ProUCL software Version 5.1. In order to add strength to the background statistics, the data for soil background samples were combined for the two depths collected (0-2 feet and 2-4 feet below ground surface). The data sets for each inorganic compound were examined for potential outliers using Q-Q graphs and the Dixon's Outlier Test. After the removal of potential outliers, the data for the two depth intervals were compared using Two Sample Comparison Testing (Wilcoxon Mann Whitney and/or Gehan). The results of the comparison testing indicated that means/medians for the shallow and deeper depth intervals were approximately equal for nine of the twelve compounds. In the comparison testing for copper, lead, and cadmium, the shallow interval means/medians are higher in concentration than the deeper interval. However, by combining the shallow and deeper interval data sets for these three compounds, a lower, more conservative background threshold value (BTV) is then estimated. Therefore, combining the data sets for the two intervals is conservative and appropriate. After the removal of outliers, 16 to 18 data points were then available for the calculation of the BTVs of twelve inorganic compounds.

BTVs were calculated using ProUCL software. Data distribution types were identified as either normal or gamma. However, where a high percentage of non-detections were present in the data (i.e., antimony, cadmium, selenium, and mercury), the data distribution was assumed to be non-parametric and the selected BTV was the maximum detected concentration (antimony, cadmium, and mercury) or the maximum detection limit (selenium). The calculated BTVs and the basis for selection are presented in Table 5.

2.3 SOURCES OF RELEASES

Sources which potentially have or are contributing to a release of hazardous constituents at the site have been identified from the investigations conducted to date. The investigation results indicated the property had been impacted with metals, PCBs, SVOCs, and VOCs from the

previously scrapping operations. The 5-acre area containing soil with incorporated foreign material appears to be the primary source of soil impacts and likely impacts to groundwater. There are other potential sources in the area surrounding the site, including other scrap yards and petroleum storage operations, but as of the date of this Application they have not been inventoried or investigated.

3.0 CONCEPTUAL SITE MODEL

A Baseline Conceptual Site Model (CSM) (Figure 3) presented in this VIRP was prepared with the data obtained to date. The objective of the CSM is to illustrate current site conditions and describe the processes that control the transport, migration and possible impacts to potential human and ecological receptors. A discussion of the various components of the CSM are presented in the sections below.

3.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

Most of the Columbus area is located south of the Fall Line, in the Coastal Plain physiographic province. The Fall Line is defined by the overlap of Coastal Plain strata on top of Piedmont rocks. Columbus is in the transition zone from the Piedmont Province to the Coastal Plain and Piedmont lithologies may be present in the northern and northeastern portions of the Columbus area. The topography across the area is variable, with generally flat areas along the Chattahoochee River and steeper upland slopes farther inland.

The sedimentary sequences of the Coastal Plain that overlie the crystalline basement rocks in the Columbus area consist of materials deposited during the Cretaceous, Tertiary, and Quaternary Periods. The Cretaceous Period sediments form the uplands and consist of the five following geologic formations.

- Ripley Formation (Upper Cretaceous): thickness ranges from 133 to 250 feet. The Ripley Formation is found only along the southeastern boundary of Fort Benning.
- Cusseta Sand (Upper Cretaceous): thickness ranges from 150 to 233 feet.
- Blufftown Formation (Upper Cretaceous): thickness ranges from 200 to 433 feet.
- Eutaw Formation (Upper Cretaceous): Thickness of the unit ranges from 100 to 280 feet.
- Tuscaloosa Formation (Upper Cretaceous): Thickness ranges from 165 to 500 feet.

The aquifer system south of the Fall Line is comprised of sedimentary rock sequences that dip and thicken to the south. The outcrop area of the sedimentary rocks functions as the recharge area of the aquifers, receiving precipitation that infiltrates down to the saturated zone. (Georgia EPD Chattahoochee River Basin Management Plan, 1997). Aquifers in the Coastal Plan consist of porous sands and carbonates, and include alternating units of sand, clay, sandstone, dolomite and limestone that dip gently and thicken to the southeast. Several of these are prolific producers of groundwater.

The Georgia Geologic Survey (Pollard and Vorhis, 1980) identifies the Cretaceous aquifers in the Columbus area as the A-3 through A-6 aquifers. The confining strata above and below the aquifers are designated C-3, C-4, and C-5. Aquifer A-6 is part of the upper Tuscaloosa and the overlying Lower Eutaw formations. This aquifer typically has the capacity to yield approximately 50 gallons of water per minute (gpm) near the Fall Line, but yields increase to approximately 700 gpm near the southern boundary of Fort Benning. Aquifer A-6 water is usually of uniformly good quality.

Aquifer A-5 is part of the basal sedimentary sequence of the Blufftown Formation. The A-5 water is more acidic than that of A-6. Some sedimentary lenses of the A-5 aquifer contain gypsum crystals, which result in a high sulfate content. Aquifer A-4 is in the upper sedimentary sequence of the Blufftown Formation and it has increasing amounts of dissolved solids, sodium, and bicarbonate concentrations. Both the A-5 and A-4 aquifers have low yields and are usually combined with other aquifers to produce adequate supplies. The A-3 aquifer correlates with the Cusseta Sand Formation. Yields from this aquifer range from 1-10 gpm in the area around the Fort Benning. This aquifer is not considered an individual source aquifer.

3.2 SITE GEOLOGY AND HYDROGEOLOGY

The site is located on the northern edge of the Coastal Plain Physiographic Provence just south of the Fall Line and approximately 0.7 miles east of the Chattahoochee River. Quaternary-aged alluvial terrace deposits likely overlay clays and muds of the cretaceous Tuscaloosa formation. The Tuscaloosa formation is likely relatively thin in this area and a Precambrian biotite gneiss could be encountered within 100 feet of land surface. Site soils are described at the surface as having about half a foot of fill soil and then a mixture of soil and accumulated foreign material down to about four to five feet below ground surface. A couple of feet of silty clay underlies the soil and accumulated materials. Below the silty clay is a zone of silty sand that extends to about 15 feet below ground surface. Below 15 feet, course gravel to small cobble stones appear in the silty sand and are present to about 40 feet, below ground surface (Figures 4 and 5). The deepest site borings terminated at 40 feet.

Topography in the area is relatively flat. There is a relatively gentle slope to the east towards an unamed tributary of the Chattahoochee River which is west and south of the site. It is approximated that the Aquifer A-6 is present below the site. This aquifer is exposed at the surface in a band extending from the Chattachoochee River in Muscogee County to the east to the Ocmulgee River in Bibb County. At the Eutaw and Tuscaloosa formations interface, the A-6 is described as consisting of coarse quartzose sand. The Tuscaloosa Formation is also described as gravelly, micaceous, arkosic and locally crossbedded. Site monitoring well data indicate the uppermost groundwater flows is toward the southwest toward the Chattachoochee River. The depth to groundwater is approximately 30 feet below ground surface with elevations ranging from 213.87 (MW-01) to 211.21 (MW-03) (Figure 6).

3.3 EXPOSURE ASSESSMENT

Constituents (metals, PCBs, VOCs and SVOCs) are present in the surface and subsurface soil at the former E. Cohn site. These constituents are associated with scrapping operations conducted on the site. Surface soils were likely impacted from placement of foreign material on the ground surface and surface runoff. Subsurface soil impacts were likely from foreign materials becoming incorporated in soils below the upper two feet of site soils from grading activities on the site and from potential leaching from materials in shallow soils. Groundwater impacts (VOCs and metals) were likely from infiltration/percolation of constituents from the overlying soils.

3.3.1 Potential Receptors

Human populations may be susceptible to exposure to site contaminants. Current and future industrial workers are the most likely on-site receptors. Other potential on-site receptors include site visitors that may go to the site for limited periods of time or the occasional trespasser. The area occupied by the scrap yard is currently fenced which should reduce trespassing. The potential for residential receptors to be present on the site in the future is considered low. The site is bounded on all four sides by industrial properties. The nearest residential area is to the west across 6th Avenue.

An ecological receptors study has not been conducted on the site. Preliminary review of current site conditions indicates there are trees and vegetation that would provide habitat and food to some birds and small terrestrial mammals. There is no surface water on the site and therefore no habitat for aquatic receptors.

3.3.2 Exposure Media and Potential Exposure Pathways

This section identifies the potential exposure pathways and exposure routes (ingestion, dermal contact, and inhalation) for site constituents and associated potential receptors. Figure 7 presents the pathways.

3.3.2.1 Surface Soil

Incidental ingestion, inhalation and dermal contact with surface soil (0 to 2 feet) are considered potential complete pathways for human and ecological receptors. On-site workers/visitors and terrestrial ecological receptors would be exposed via direct contact with soils while on the property. Terrestrial ecological receptors that dig in the impacted soil for food or burrow into the soil for habitat ingest constituents and then are consumed by larger terrestrial receptors could introduce the constituents into the food web. The site has been graded and there is little vegetative cover on the property to restrict impacted soils from becoming air-borne. On-site workers/visitors and off-site area residents may have the potential to be exposed to site constituents via fugitive dusts in the air.

3.3.2.2 Subsurface Soil

Incidental ingestion, inhalation, and dermal contact with subsurface soil (deeper than 2 feet) are considered potential complete pathways for human and ecological receptors while on-site. On-site workers/visitors and terrestrial ecological receptors would be exposed to impacted soils while conducting excavation activities on the property. Off-site area residents would not likely be exposed to constituents in subsurface soils unless there are fugitive dusts generated from excavating which can be controlled.

3.3.2.3 Groundwater

Seven metals and three VOCs are present in the groundwater samples collected on the site. Cobalt, manganese, and tetrachloroethene had concentrations above the Type 1 RRS. Exposures to constituents in groundwater are not currently occurring and are not expected to

occur in the future. The depth to groundwater on the site is about 30 feet below ground surface and precludes dermal exposure to constituents in groundwater. Ingestion of impacted groundwater is precluded because groundwater is not used as a drinking water source in the area and is and will be further restricted by institutional controls. Site constituents in groundwater are not a threat to drinking water supplies because of the following:

- The site area is supplied with municipal water obtained from a surface water source (Chattahoochee River) upstream of the city.

- The City of Columbus Ordinance Sec. 13-352 makes it "….unlawful for any person, owning or renting any residence or building, to have, keep, use or maintain on the premises, where same is located, any well or open cistern, which is used, or can be used for the purpose of supplying drinking water to the occupants of such residence or building, or to others, where such premises abut upon a street wherein is located pipes and mains for a public water supply which can, by proper connection, be made available to supply such residence or building with water for drinking purposes."…This ordinance would provide a current and future "institutional control" prohibiting the use of groundwater as a drinking water supply.

- An Environmental Covenant is planned for execution on the property which will further restrict and eliminate exposure to groundwater.

3.3.2.4 Surface Water and Sediment

Surface water is not present on the site and therefore does not present an exposure pathway. The groundwater flows toward the southwest and does not discharge to the unnamed Chattahoochee tributary (east of the site). Sediment associated surface water is also not present on the site and does not present an exposure pathway. Storm water runoff is captured by municipal storm water drains, treated and then discharged.

3.3.2.5 Indoor Air

The property currently consists of graded undeveloped land with two abandoned one-story structures. The structures are currently un-occupied and so there is no receptors and no pathway for exposure for potential vapor intrusion. Should there be use or potential redevelopment/expansion inside the enclosed structures(s) on the property, the potential for vapor intrusion from VOCs in sub-slab soil gas and/or indoor air will be reassessed.

4.0 KNOWN DELINEATION AND PROPOSED INVESTIGATION PLAN

4.1 DELINEATION OF CONSTITUENTS IN SOIL

Surface and subsurface soils were assessed for horizontal and vertical extent at the site. Soil samples were collected using direct-push technology and analyzed in the laboratory for metals, PCBs, SVOCs and VOCs and constituents associated with UXOs.

Munitions debris was encountered on the site; however, the multiple lines of evidence do not indicate that UXOs are present on the site. 1) Inspection by UXO trained personnel, Department of Defense and local authorities confirmed that all debris identified through the investigations to date consists of demilitarized (demilled) ordinance debris. Opinions are that the facility accepted waste from Fort Benning. 2) Broad spectrum analytical sampling for common explosives yielded no ubiquitous presence of explosive related compounds in surface or subsurface soil. Perchlorate is not associated with ordinances. 3) Sixty years of continual movement across site during anthropogenic deposition and ultimate grading of entire site during lease termination would have likely detonated an UXO, if it were present. No detonations reported.

Type 1 residential risk reductions standards, background threshold values (BTVs) or HSRA Notification Concentrations were used as the delineation criteria for soils and are listed below. The delineation of the constituents are described in the following sections.

Constituent	Delineation Value (mg/kg)	Delineation Criteria
4-Nitrotoluene	1.12	Type 1 RRS
Mercury	0.5	Type 1 RRS
Barium	1000	Type 1 RRS
Cobalt	20	Type 1 RRS
Copper	100	Type 1 RRS
Lead	125	BTV
Manganese	530	BTV
Nickel	50	Type 1 RRS
Vanadium	100	Type 1 RRS
Zinc	126	BTV
Antimony	4.0	Type 1 RRS
Arsenic	20	Type 1 RRS
Beryllium	2.0	Type 1 RRS
Cadmium	2.0	Type 1 RRS
Chromium	100	Type 1 RRS
Selenium	2.0	Type 1 RRS
Silver	2.0	Type 1 RRS
Thallium	10	Notification Concentration
PCB-1242	1.55	Type 1 RRS
PCB-1248	1.55	Type 1 RRS

Constituent	Delineation Value (mg/kg)	Delineation Criteria
PCB-1254	1.55	Type 1 RRS
PCB-1260	1.55	Type 1 RRS
2,4-Dimethylphenol	70	Type 1 RRS
2-Methylnaphthalene	1.0	Type 1 RRS
3+4-Methylphenol (m,p-Cresol)	3.8	Type 1 RRS
4-Chloroaniline	10	Type 1 RRS
Acenaphthene	300	Type 1 RRS
Acenaphthylene	130	Type 1 RRS
Acetophenone	400	Type 1 RRS
Anthracene	500	Type 1 RRS
Benzo(a)anthracene	5.0	Type 1 RRS
Benzo(a)pyrene	1.64	Type 1 RRS
Benzo(b)fluoranthene	5.0	Type 1 RRS
Benzo(g,h,i)perylene	500	Type 1 RRS
Benzo(k)fluoranthene	5	Type 1 RRS
bis(2-Ethylhexyl)phthalate	50	Type 1 RRS
Butyl benzyl phthalate	50	Type 1 RRS
Chrysene	5	Type 1 RRS
Dibenzo(a,h)anthracene	2.05	Type 1 RRS
Diethyl phthalate	500	Type 1 RRS
Dimethyl phthalate	40000	Type 1 RRS
Fluoranthene	500	Type 1 RRS
Fluorene	360	Type 1 RRS
Indeno(1,2,3-cd)pyrene	5.0	Type 1 RRS
Naphthalene	100	Type 1 RRS
Phenanthrene	110	Type 1 RRS
Phenol	400	Type 1 RRS
Pyrene	500	Type 1 RRS
1,1,1-Trichloroethane	20	Type 1 RRS
1,1-Dichloroethane	400	Type 1 RRS
2-Butanone (Methyl ethyl ketone)	200	Type 1 RRS
Acetone	400	Type 1 RRS
Benzene	0.5	Type 1 RRS
Chloroethane	0.17	Type 1 RRS
cis-1,2-Dichloroethene	7.0	Type 1 RRS
Cyclohexane	20	Type 1 RRS
Ethylbenzene	70	Type 1 RRS
Methylcyclohexane	0.1	Type 1 RRS
Methylene chloride Dichloromethane)	0.5	Type 1 RRS
Styrene	14	Type 1 RRS
Tetrachloroethene (PCE)	0.5	Type 1 RRS

Constituent	Delineation Value (mg/kg)	Delineation Criteria
Toluene	100	Type 1 RRS
Trichloroethene (TCE)	0.5	Type 1 RRS
Trichlorofluoromethane (Freon 11)	200	Type 1 RRS
Xylenes, Total	1000	Type 1 RRS

4.1.1 Surface Soil

The following constituents were detected at concentrations above the delineation values in the surface soil (0 to 2 feet):

Mercury	Cobalt	Copper	Lead
Manganese	Nickel	Zinc	Antimony
Arsenic	Beryllium (1 location)	Cadmium	Chromium
Silver (1 location)	PCB-1248	PCB-1254	2-Methylnaphthalene
Benzo(a)anthracene (1 location)	Benzo(a)pyrene	Benzo(b)fluoranthene	bis(2-Ethylhexyl)phthalate
Chrysene	Dibenzo(a,h)anthracene	Indeno(123-cd)pyrene	
Chloroethane (1 location)	Methylcyclohexane	Tetrachloroethene (PCE)	Trichloroethene (TCE) (1 location)

Figures 8 through 18 indicates the extent of metals in soil. Metals (mercury, cobalt, nickel, zinc, antimony, arsenic, cadmium, and chromium) are mostly delineated around the perimeter of the site boundary with a few data gaps at select locations on the west, northwest, and east sides of the site. Copper, lead, and manganese are not completely delineated and have data gaps on the east, south-southwest, west, and northwest.

Figures 19 through 21 indicates the extent of PCBs, SVOCs, and VOCs in soil. PCBs are mostly delineated with a few data gaps at select locations on the west and southwest sides of the site. SVOCs are mostly delineated with a few data gaps at select locations on the southeast, south, west and northwest sides of the site. VOCs are mostly delineated, except for an area on northeast side of the site and select points on the west side.

<u>Proposed Additional Investigation</u>

Additional assessment is proposed to close certain data gaps in the surface soil constituent delineation. For most of the metals, additional investigation will be to step out a little further on the west, northwest, and east sides of the site at select locations. For copper, lead, and manganese more work will be needed east, south-southwest, west, and northwest. Additional sampling to close data gaps for delineation of PCBs and VOCs is proposed on the northeast, southwest and west sides of the site. SVOCs will also need additional sampling.

4.1.2 Subsurface Soil

The following constituents were detected at concentrations above the delineation values in the subsurface soils (greater than 2 feet):

Mercury	Manganese	Antimony	PCB-1254	Methylcyclohexane
Cobalt	Nickel	Chromium	2-Methylnaphthalene (1 location)	Tetrachloroethene (PCE) (1 location)
Copper	Arsenic	Zinc	Benzo(a)pyrene	Chloroethane (1 location)
Lead	Cadmium	PCB-1248	bis(2-Ethylhexyl)phthalate (1 location)	

Figures 8 through 18 indicates the extent of metals in soil. Most of the concentrations of the site constituents detected in the 2 to 4 feet depth were greater than the delineation values. Some of the concentrations in the 6 to 8 feet depth were greater than the delineation values. At the 12 to 14 sample depth, the metals, except manganese, had concentrations less than the delineation values. Manganese was the only constituent with concentrations in the 12 to 14 feet depth with concentrations greater than delineation values. Metals (mercury, cobalt, nickel, zinc, antimony, arsenic, cadmium, and chromium) are mostly delineated around the perimeter of the site boundary with a few data gaps at select locations on the west, northwest, and east sides of the site. Copper, lead, and manganese are not completely delineated and have data gaps on the east, south-southwest, west, and northwest.

Figures 19 through 21 indicates the extent of PCBs, SVOCs, and VOCs in soil. PCBs are mostly delineated with a few data gaps at select locations on the west and southwest sides of the site. SVOCs are mostly delineated with a few data gaps at select locations on the southeast, west and northwest sides of the site. VOCs are mostly delineated, except for an area on northeast side of the site and select points on the west side.

<u>Proposed Additional Investigation for Subsurface</u>

Additional assessment is proposed to close certain data gaps in the subsurface soil constituent delineation. For most of the metals, additional investigation will be to step out a little further on the west, northwest, and east sides of the site at select locations. For copper, lead, and manganese more work will be needed east, south-southwest, west, and northwest. Additional sampling to close data gaps for delineation of PCBs and VOCs is proposed on the northeast, southwest and west sides of the site. SVOCs will also need additional sampling.

4.2 GROUNDWATER

Four monitoring wells were installed to collect groundwater samples from the uppermost groundwater. Groundwater samples were collected from the four permanent wells and analyzed in the laboratory for total and dissolved metals, PCBs, semi-volatile volatile organic and volatile organic compounds.

Type 1 residential risk reductions standards were used as the delineation criteria for groundwater and is listed below. The delineation of the constituents is described in the following sections.

Constituent	Delineation Value (mg/L)	Delineation Criteria
4-Nitrotoluene	0.0002	Type 1 RRS
Mercury	0.002	Type 1 RRS
Antimony	0.006	Type 1 RRS
Arsenic	0.01	Type 1 RRS
Barium	2	Type 1 RRS
Beryllium	0.004	Type 1 RRS
Cadmium	0.005	Type 1 RRS
Chromium	0.1	Type 1 RRS
Cobalt	0.01	Type 1 RRS
Copper	1.3	Type 1 RRS
Lead	0.015	Type 1 RRS
Manganese	0.002	Type 1 RRS
Nickel	0.1	Type 1 RRS
Selenium	0.05	Type 1 RRS
Silver	0.1	Type 1 RRS
Thallium	0.002	Type 1 RRS
Vanadium	0.2	Type 1 RRS
Zinc	2	Type 1 RRS
PCB-1242	0.001	Type 1 RRS
PCB-1248	0.001	Type 1 RRS
PCB-1254	0.001	Type 1 RRS
PCB-1260	0.001	Type 1 RRS
2,4-Dimethylphenol	0.70	Type 1 RRS
4-Chloroaniline	0.1	Type 1 RRS
Acetophenone	4	Type 1 RRS
bis(2-Ethylhexyl)phthalate	0.002	Type 1 RRS
Butyl benzyl phthalate	0.002	Type 1 RRS
Diethyl phthalate	5	Type 1 RRS
Dimethyl phthalate	400	Type 1 RRS
Phenol	4	Type 1 RRS
2-Methylnaphthalene	0.01	Type 1 RRS
Acenaphthene	2	Type 1 RRS
Acenaphthylene	0.01	Type 1 RRS
Anthracene	0.01	Type 1 RRS
Benzo(a)anthracene	0.0001	Type 1 RRS
Benzo(a)pyrene	0.0002	Type 1 RRS
Benzo(b)fluoranthene	0.0002	Type 1 RRS
Benzo(g,h,i)perylene	0.01	Type 1 RRS
Benzo(k)fluoranthene	0.0001	Type 1 RRS

Constituent	Delineation Value (mg/L)	Delineation Criteria
Chrysene	0.01	Type 1 RRS
Dibenzo(a,h)anthracene	0.0003	Type 1 RRS
Fluoranthene	1	Type 1 RRS
Fluorene	1	Type 1 RRS
Indeno(1,2,3-cd)pyrene	0.0004	Type 1 RRS
Naphthalene	0.02	Type 1 RRS
Phenanthrene	0.01	Type 1 RRS
Pyrene	1	Type 1 RRS
1,1,1-Trichloroethane	0.2	Type 1 RRS
1,1-Dichloroethane	4	Type 1 RRS
2-Butanone (Methyl ethyl ketone)	2	Type 1 RRS
Acetone	4	Type 1 RRS
Benzene	0.005	Type 1 RRS
Chloroethane	0.001	Type 1 RRS
cis-1,2-Dichloroethene	0.07	Type 1 RRS
Cyclohexane	0.001	Type 1 RRS
Ethylbenzene	0.7	Type 1 RRS
Methylcyclohexane	0.001	Type 1 RRS
Methylene chloride (Dichloromethane)	0.005	Type 1 RRS
Styrene	0.1	Type 1 RRS
Tetrachloroethene (PCE)	0.005	Type 1 RRS
Toluene	1	Type 1 RRS
Trichloroethene (TCE)	0.005	Type 1 RRS
Trichlorofluoromethane (Freon 11)	2	Type 1 RRS
Xylenes, Total	10	Type 1 RRS

The following constituents were detected in groundwater above the Type 1 RRS delineation criteria: Cobalt, Manganese, and Tetrachloroethene. PCBs and SVOCs were not detected in the groundwater samples. Figure 22 shows where the constituents were detected above the Type 1 RRS. The extent of constituents in groundwater is not delineated to Type 1 RRS, however, groundwater onsite has been determined to be in compliance with Type 2 and/or Type 4 RRS. Given that the site scored and was listed only for soil and that groundwater is in compliance with applicable RRS, no further investigation or delineation of groundwater is warranted.

4.3 STATUS OF COMPLIANCE WITH RISK REDUCTION STANDARDS

Some constituent concentrations in surface and subsurface soils exceeded the Types 1 through 4 RRS. The RRS for soil and groundwater are provided in Appendix F. The exceedances are identified on Tables 2 and 3 and shown on Figure 23. A summary of the constituents that exceed is listed below. Groundwater is in compliance with Type 2 and/or Type 4 RRS. Dissolved and total cobalt and dissolved manganese comply with Type 4 RRS. Total manganese (well MW-2) complies with Type 4 while wells MW-1, MW-3, and MW-4 total

manganese concentrations comply with Type 2. The PCE concentrations comply with Type 2 RRS. Figure 23 presents the locations of the exceedances for soil and groundwater.

Constituent that Exceeds RRS	Surface Soil that Exceeds RRS	Subsurface Soil that Exceeds RRS
Cobalt	X	X
Copper	X	X
Lead	X	X
Manganese	X	X
Nickel	X	X
Zinc	X	X
Antimony	X	X
Arsenic	X	X
Cadmium		X
Chromium	X	X
PCB-1248	X	X
PCB-1254	X	X
Benzo(a)anthracene	X	
Benzo(a)pyrene	X	X
Benzo(b)fluoranthene	X	
bis(2-Ethylhexyl)phthalate	X	X
Methylcyclohexane	X	X
Trichloroethene (TCE)	X	
Tetrachloroethene (PCE)	X	X

5.0 PROPOSED REMEDIATION PLAN

It is COGs intent to remove the site from the Hazardous Site Inventory (HSI) through implementation of Voluntary Investigation and Remediation Plan (VIRP) that consists of a remedial approach that is fully protective of human health and the environment. The general plan outlined below will be updated and finalized as the Conceptual Site Model progresses from Baseline stage, as reported herein, to Design stage. The basis for the CSM update will be the activities described in Section 4.0, Investigation Plan and will serve both as the final delineation and pre-design investigation for the site.

5.1 SCOPE

The presumptive most appropriate remedy for the site is an engineered cap augmented by a removal action as necessary. The intended future use for the site is a parking lot for storage of automobiles to be shipped by rail. Specific details regarding the cap, including thickness, design material, slope estimates are yet to be determined, but will be based on data collected during the pre-design investigation as well as the parking area needs. At a minimum, the area of most significant impacts on the former scrap yard parcel will be capped. Soils exceeding cleanup standards that are outside of the footprint will be either transported off site for disposal or consolidated under the cap, depending on the economics. A figure outlining the conceptual location of the cap is included as Figure 24.

5.2 SCHEDULE

The schedule for implementing the VIRP is outlined below.

Schedule Period	Activity
VIRP Approval – 6 Months	Human Health Risk Assessment, Delineation Activities
6 Month Milestone	Semi-Annual Progress Report
6 Months – 12 Months	Delineation and pre-design activities completion
12 Month Milestone	Semi-Annual Progress Report
12 Months – 18 Months	Remedy design and contractor procurement
18 Month Milestone	Semi-Annual Progress Report
18 Months – 24 Months	Remedy Implementation
24 Month Milestone	Semi-Annual Progress Report
30 Month Milestone	Compliance Status Report

Figure 25 presents a Gantt chart schedule for the tasks associated with the VIRP implementation through Compliance Status Report submittal.

5.3 COST

The accuracy and completeness of cost estimating is dependent on a number of factors including the current stage of the Project Life Cycle CSM. As a general rule, certainty and thus accuracy increases as you move along the six stages of CSM development (EPA OSWER 542-F-11-011). Also as a general rule, it is risky to rely on engineering level estimates at any stage of CSM development prior to the completion of the Design CSM stage. Prior to that, cost estimating should only be done at a conceptual level and for comparison purposes only.

Based on the work completed to date, total costs to implement a capping remedy for the site are estimated at approximately $1.5MM. These costs reflect a -50+100% level of accuracy and are considered conceptual.

TABLES

Table 1: Summary of Well Construction and Groundwater Elevation Data

Well	Installation Date	Northing	Easting	Ground Elevation (ft, NAVD)	Top of Casing (TOC) Elevation (ft, NAVD)	Total Well Depth from TOC (ft)	Total Well Depth Elevation (ft, NAVD)	Screened Interval (ft, bgs)		Depth to Groundwater on 4/11/2016 (ft, btoc)	Groundwater Elevation on 4/11/2016 (ft, NAVD)
MW-1	2/24/2016	894761.17	2044862.91	237.8	241.12	42.00	199.1	25.0	40.0	27.25	213.87
MW-2	2/24/2016	894371.00	2044656.94	241.6	245.39	43.34	202.1	24.8	39.8	33.70	211.69
MW-3	2/24/2016	894236.37	2044505.14	243.1	246.60	37.05	209.6	23.0	33.0	35.39	211.21
MW-4	2/23/2016	894133.20	2044951.09	241.3	244.67	43.80	200.9	30.0	40.0	32.59	212.08

btoc = below top of casing
bgs = below ground surface
ft = feet
NAVD 88 North American Vertical Datum of 1988

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	BK-01 BK-1-0-2-062316 0-2 6/23/2016 Sample	BK-02 BK-2-0-2-062316 0-2 6/23/2016 Sample	BK-03 BK-3-0-2-062316 0-2 6/23/2016 Sample	BK-04 BK-4-0-2-062316 0-2 6/23/2016 Sample	BK-05 BK-5-0-2-062316 0-2 6/23/2016 Sample	BK-06 BK-6-0-2-062316 0-2 6/23/2016 Sample	BK-07 BK-7-0-2-062316 0-2 6/23/2016 Sample	BK-08 BK-8-0-2-062316 0-2 6/23/2016 Sample	BK-09 BK-9-0-2-062316 0-2 6/23/2016 Sample	BK-10 BK-10-0-2-062316 0-2 6/23/2016 Sample
Explosives - SW846 8330B, mg/kg													
4-Nitrotoluene	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg													
Mercury	0.50	17	0.167	0.164	**0.736**	< 0.112	< 0.0979	< 0.102	0.126	< 0.102	**0.701**	0.113	< 0.111
Metals, Total - SW846 6010C, mg/kg													
Barium	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	20	25	10.1	5.02	5.27	7.68	3.67	3.17	5.53	2.95	5.27	4.66	7.49
Copper	100	1500	58.5	15.7	36.2	29.8	**65.9**	37.1	**156**	21.7	38.5	58.4	36.3
Lead	75	400	125	26.2	**90.1**	26.4	74.8	63.3	**293**	35.2	**141**	49	24.5
Manganese	25	159.92	530	**316**	**493**	**379**	**214**	**169**	**221**	**325**	**548**	**298**	**371**
Nickel	50	420	16.3	6.92	8.83	11.3	11.6	7.36	9.86	5.68	7.33	5.93	12.9
Vanadium	200	511.1	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	291.9	2800	126	42.4	123	71.9	63	**150**	**387**	53.7	91.1	55	77.6
Metals, Total - SW846 6020A, mg/kg													
Antimony	4.0	10	3.96	< 0.409	0.42	< 0.455 UJ	3.96	0.45	**7.87**	< 0.374	1.3	0.689	< 0.426
Arsenic	20	38.12	9.41	2.66	4.81	3.92	8.0	5.54	**51.7**	3.26	**10.5**	7.86	2.74
Beryllium	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	39	0.454	< 0.205	0.272	< 0.228	< 0.205	0.454	**9.07**	0.293	0.403	< 0.205	< 0.213
Chromium	100	108.93	43.9	21.7	25.2	34.8	19.1	15.9	40.7	8.97	23.2	19	30.2
Selenium	2.0	36	0.957	< 0.818	< 0.734	< 0.91	< 0.819	< 0.593	0.916	< 0.748	< 0.769	< 0.821	< 0.853
Silver	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg													
PCB-1242	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg													
2,4-Dimethylphenol	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	4.2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	13.71	46	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	BK-01 BK-1-0-2-062316 0-2 6/23/2016 Sample	BK-02 BK-2-0-2-062316 0-2 6/23/2016 Sample	BK-03 BK-3-0-2-062316 0-2 6/23/2016 Sample	BK-04 BK-4-0-2-062316 0-2 6/23/2016 Sample	BK-05 BK-5-0-2-062316 0-2 6/23/2016 Sample	BK-06 BK-6-0-2-062316 0-2 6/23/2016 Sample	BK-07 BK-7-0-2-062316 0-2 6/23/2016 Sample	BK-08 BK-8-0-2-062316 0-2 6/23/2016 Sample	BK-09 BK-9-0-2-062316 0-2 6/23/2016 Sample	BK-10 BK-10-0-2-062316 0-2 6/23/2016 Sample
Fluoranthene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds - SW846 8260C, mg/kg													
1,1,1-Trichloroethane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	1.71	8.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	0.10	0.10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5000	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA regulated compounds shown

Data Qualifiers:
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< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-01B DT-1B-0-2-062216 0-2 6/22/2016 Sample	DT-02-120 DT-2-120-0-2-062316 0-2 6/23/2016 Sample	DT-03-40 DT-3-40-0-2-062316 0-2 6/23/2016 Sample	DT-04-100 DT-4-100-0-2-062216 0-2 6/22/2016 Sample	DT-05-50 DT-5-50-0-2-062116 0-2 6/21/2016 Sample	DT-05-50 DT-DUP1-062116 0-2 6/21/2016 Duplicate	DT-06-35 DT-6-35-0-2-062116 0-2 6/21/2016 Sample	DT-07-40 DT-7-40-0-2-062316 0-2 6/23/2016 Sample	DT-08-Offset DT-8-0-2-062316_OFFSET 0-2 6/23/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.50	17	0.167	NA	NA	NA	NA	NA	NA	NA	< 0.102	< 0.104
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	20	25	10.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	100	1500	58.5	**77.7**	**111**	NA	NA	30.9	NA	NA	**139**	**76**
Lead	75	400	125	**126**	**183**	**879**	**387**	50.9	NA	58.9	23.4	**237**
Manganese	25	159.92	530	**512**	**316**	**299**	**1670**	**394**	NA	**274**	**320**	**518**
Nickel	50	420	16.3	NA	NA	NA	NA	NA	NA	NA	5.72	**38.6**
Vanadium	200	511.1	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	291.9	2800	126	NA	NA	NA	NA	NA	NA	NA	33.5	**195**
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	10	3.96	1.77	3.85 JL	NA	NA	0.828	NA	NA	< 0.401	**11.8**
Arsenic	20	38.12	9.41	**34**	**17.7**	NA	**23**	NA	NA	**10.8**	NA	**14.9**
Beryllium	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	39	0.454	NA	NA	NA	NA	0.182	NA	NA	< 0.201	**1.39**
Chromium	100	108.93	43.9	NA	NA	NA	NA	NA	NA	NA	5.67	27.8
Selenium	2.0	36	0.957	NA	NA	NA	**1.05**	NA	NA	< 0.648	NA	NA
Silver	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	--	NA	< 0.019	NA	NA	NA	NA	NA	NA	< 0.017
PCB-1248	1.55	1.55	--	NA	< 0.019	NA	NA	NA	NA	NA	NA	< 0.017
PCB-1254	1.55	1.55	--	NA	< 0.019	NA	NA	NA	NA	NA	NA	< 0.017
PCB-1260	1.55	1.55	--	NA	< 0.019	NA	NA	NA	NA	NA	NA	0.072
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	4.2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	--	NA	0.061	NA	**3.2**	NA	NA	0.24	0.093	1.3
Benzo(b)fluoranthene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	13.71	46	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-01B DT-1B-0-2-062216 0-2 6/22/2016 Sample	DT-02-120 DT-2-120-0-2-062316 0-2 6/23/2016 Sample	DT-03-40 DT-3-40-0-2-062316 0-2 6/23/2016 Sample	DT-04-100 DT-4-100-0-2-062216 0-2 6/22/2016 Sample	DT-05-50 DT-5-50-0-2-062116 0-2 6/21/2016 Sample	DT-05-50 DT-DUP1-062116 0-2 6/21/2016 Duplicate	DT-06-35 DT-6-35-0-2-062116 0-2 6/21/2016 Sample	DT-07-40 DT-7-40-0-2-062316 0-2 6/23/2016 Sample	DT-08-Offset DT-8-0-2-062316_OFFSET 0-2 6/23/2016 Sample
Fluoranthene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	1.71	8.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	0.10	0.10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5000	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.50	0.50	--	NA	NA	**12**	NA	**2.6 J**	0.029 J	NA	NA	NA
Toluene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
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EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
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EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-09-105 DT-9-105-0-2-062316 0-2 6/23/2016 Sample	DT-09-105 DT-DUP3-062316 0-2 6/23/2016 Duplicate	DT-10B DT-10B-0-2-062216 0-2 6/22/2016 Sample	DT-11B DT-11B-0-2-062216 0-2 6/22/2016 Sample	DT-12B DT-12B-0-2-062216 0-2 6/22/2016 Sample	MW-01 MW-1-0-2-022516 0-2 2/25/2016 Sample	MW-02 MW-2-0-2-022516 0-2 2/25/2016 Sample	MW-02 MW-DUP-03-022516FD 0-2 2/25/2016 Duplicate	MW-03 MW-3-0-2-022416 0-2 2/24/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	--	NA	NA	NA	NA	NA	< 0.13	< 0.14	< 0.13	< 0.14
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.50	17	0.167	0.166	**0.204**	NA	NA	NA	**< 0.209**	**0.816**	**0.657**	**0.376**
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	--	NA	NA	NA	NA	NA	128	851	898	276
Cobalt	20	25	10.1	NA	NA	NA	NA	NA	8.7	**20.1**	**17.4**	8.53
Copper	100	1500	58.5	**78.2**	**74.4**	30.9	**276**	47.2	**1550**	**2220 J**	**943 J**	**1160**
Lead	75	400	125	**285**	**247**	44.2	**95.1**	**102**	**131**	**1990**	**1490**	**279**
Manganese	25	159.92	530	**606**	**636**	**470**	**490**	**1420**	**503**	**933**	**1100**	**383**
Nickel	50	420	16.3	16.2 J	**31.7 J**	NA	**30.6**	NA	**43.8**	**490**	**366**	**44.7**
Vanadium	200	511.1	--	NA	NA	NA	NA	NA	45.5	32 J	**122 J**	37.2
Zinc	291.9	2800	126	**174**	**163**	83.7	**137**	NA	**400**	**10300 J**	**25000 J**	**657**
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	10	3.96	NA	NA	NA	1.8	NA	3.31	**17.8**	**21.4**	3.8
Arsenic	20	38.12	9.41	NA	NA	NA	NA	NA	3.75	**16.7**	**14.5**	8.05
Beryllium	24.72	161.52	--	NA	NA	NA	NA	NA	0.645	0.348	0.259	0.505
Cadmium	2.0	39	0.454	**0.662**	**0.657**	NA	0.427	NA	**2.89**	**21.6**	**20.9**	**1.86**
Chromium	100	108.93	43.9	36.8	35.6	NA	NA	NA	27.1	**400**	**295**	**70.4**
Selenium	2.0	36	0.957	NA	NA	NA	NA	NA	< 0.775	**0.959**	0.836	< 0.731
Silver	2.0	10	--	NA	NA	NA	NA	NA	< 0.194	0.805	0.879	0.718
Thallium	2.0	10	--	NA	NA	NA	NA	NA	0.342	< 1.02	< 0.207	< 0.914
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	--	< 0.018	< 0.018	< 0.019	< 0.088	NA	< 0.094	< 1	**< 1.9**	0.79
PCB-1248	1.55	1.55	--	< 0.018	< 0.018	< 0.019	< 0.088	NA	0.27	**8 J**	**< 1.9 UJ**	< 0.2
PCB-1254	1.55	1.55	--	< 0.018	< 0.018	< 0.019	0.13 JH	NA	0.17	**14**	**12**	**1.8**
PCB-1260	1.55	1.55	--	0.071	0.072	< 0.019	< 0.088	NA	< 0.094	< 1	**< 1.9**	< 0.2
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	--	NA	NA	NA	NA	NA	< 0.036	< 1.0	< 0.94	< 0.2
2-Methylnaphthalene	1.0	2.11	--	NA	NA	NA	NA	NA	< 0.018	**2.0**	**2.1**	< 0.1
3+4-Methylphenol (m,p-Cresol)	3.8	4.2	--	NA	NA	NA	NA	NA	< 0.036	< 1.0	< 0.94	< 0.2
4-Chloroaniline	10	10	--	NA	NA	NA	NA	NA	< 0.073	< 2.0	< 1.9	< 0.4
Acenaphthene	300	300	--	NA	NA	NA	NA	NA	< 0.018	< 0.52	< 0.48	< 0.1
Acenaphthylene	130	130	--	NA	NA	NA	NA	NA	< 0.018	< 0.52	< 0.48	< 0.1
Acetophenone	400	400	--	NA	NA	NA	NA	NA	< 0.036	< 1.0	< 0.94	< 0.2
Anthracene	500	1000	--	NA	NA	NA	NA	NA	< 0.018	0.62	< 0.48	< 0.1
Benzo(a)anthracene	5.0	5.0	--	NA	NA	NA	NA	NA	< 0.018	1.1	0.66	0.2
Benzo(a)pyrene	1.64	1.64	--	**4.4**	**2.7**	NA	NA	NA	< 0.018	**2.3**	0.96	0.36
Benzo(b)fluoranthene	5.0	5.0	--	NA	NA	NA	NA	NA	0.027	2.2	2.0	0.49
Benzo(g,h,i)perylene	500	500	--	NA	NA	NA	NA	NA	< 0.018	2.3	1.4	0.3
Benzo(k)fluoranthene	13.71	46	--	NA	NA	NA	NA	NA	< 0.018	1.1	0.72	0.19
bis(2-Ethylhexyl)phthalate	50	50	--	NA	NA	NA	NA	NA	< 0.18	10	8.1	< 1.0
Butyl benzyl phthalate	50	50	--	NA	NA	NA	NA	NA	< 0.18	< 5.1	< 4.7	< 0.99
Chrysene	42	140	--	NA	NA	NA	NA	NA	0.02	1.4	1.1	0.31
Dibenzo(a,h)anthracene	2.05	5.0	--	NA	NA	NA	NA	NA	< 0.018	< 0.52	< 0.48	0.14
Diethyl phthalate	500	500	--	NA	NA	NA	NA	NA	< 0.18	< 5.1	< 4.7	< 0.99
Dimethyl phthalate	40000	40000	--	NA	NA	NA	NA	NA	< 0.18	< 5.1	< 4.7	< 0.99

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-09-105 DT-9-105-0-2-062316 0-2 6/23/2016 Sample	DT-09-105 DT-DUP3-062316 0-2 6/23/2016 Duplicate	DT-10B DT-10B-0-2-062216 0-2 6/22/2016 Sample	DT-11B DT-11B-0-2-062216 0-2 6/22/2016 Sample	DT-12B DT-12B-0-2-062216 0-2 6/22/2016 Sample	MW-01 MW-1-0-2-022516 0-2 2/25/2016 Sample	MW-02 MW-2-0-2-022516 0-2 2/25/2016 Sample	MW-02 MW-DUP-03-022516FD 0-2 2/25/2016 Duplicate	MW-03 MW-3-0-2-022416 0-2 2/24/2016 Sample
Fluoranthene	500	500	--	NA	NA	NA	NA	NA	0.025	1.8	1.0	0.36
Fluorene	360	360	--	NA	NA	NA	NA	NA	< 0.018	< 0.52	< 0.48	< 0.1
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	NA	NA	NA	NA	NA	< 0.018	1.7	0.71	0.27
Naphthalene	100	100	--	NA	NA	NA	NA	NA	< 0.018	1.6	1.5	< 0.1
Phenanthrene	110	110	--	NA	NA	NA	NA	NA	0.019	1.9	1.2	0.18
Phenol	400	400	--	NA	NA	NA	NA	NA	< 0.036	< 1.0	< 0.94	< 0.2
Pyrene	500	500	--	NA	NA	NA	NA	NA	0.022	2.1	1.6	0.42
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	< 0.006	< 0.004
1,1-Dichloroethane	400	400	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	< 0.006	< 0.004
2-Butanone (Methyl ethyl ketone)	200	200	--	NA	NA	NA	NA	NA	< 0.011	< 0.41	0.022 JH	< 0.009
Acetone	400	400	--	NA	NA	NA	NA	NA	0.13	< 0.83	0.24 JH	0.023
Benzene	0.5	0.50	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	0.007 JH	< 0.004
Chloroethane	1.71	8.4	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	< 0.006	< 0.004
cis-1,2-Dichloroethene	7.0	7.0	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	< 0.006	< 0.004
Cyclohexane	20	20	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	< 0.006	< 0.004
Ethylbenzene	70	70	--	NA	NA	NA	NA	NA	< 0.005	0.73 J	< 0.006 UJ	< 0.004
Methylcyclohexane	0.10	0.10	--	NA	NA	NA	NA	NA	< 0.005	**< 0.21**	< 0.006	< 0.004
Methylene chloride (Dichloromethane)	0.5000	0.50	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	< 0.006	< 0.004
Styrene	14	14	--	NA	NA	NA	NA	NA	< 0.005	0.32 J	< 0.006 UJ	< 0.004
Tetrachloroethene (PCE)	0.50	0.50	--	NA	NA	NA	NA	NA	0.06	< 0.21	< 0.006	< 0.004
Toluene	100	100	--	NA	NA	NA	NA	NA	< 0.005	8.4 J	0.009 JH	< 0.004
Trichloroethene (TCE)	0.50	0.50	--	NA	NA	NA	NA	NA	< 0.005	< 0.21	< 0.006	< 0.004
Trichlorofluoromethane (Freon 11)	200	200	--	NA	NA	NA	NA	NA	< 0.005	0.21	< 0.006	< 0.004
Xylenes, Total	1000	1000	--	NA	NA	NA	NA	NA	< 0.005	4.2 J	0.009 JH	< 0.004

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA regulated compounds shown

Data Qualifiers:
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< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	MW-04 MW-4-0-2-022316 0-2 2/23/2016 Sample	SBO-01 SBO-01-0-2-022616 0-2 2/26/2016 Sample	SBO-02 SBO-02-0-2-022616 0-2 2/26/2016 Sample	SBO-03 SBO-03-0-2-022616 0-2 2/29/2016 Sample	SBO-04 SBO-04-0-2-022516 0-2 2/25/2016 Sample	SBO-05 SBO-05-0-2-022616 0-2 2/29/2016 Sample	SBO-06 SBO-06-0-2-022616 0-2 2/29/2016 Sample	SBO-07 SBO-07-0-2-022316 0-2 2/24/2016 Sample	SBO-08 SBO-08-0-2-022316 0-2 2/23/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	--	< 0.13	< 0.14	< 0.14	< 0.14	< 0.15	< 0.14	< 0.13	< 0.14	< 0.15
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.50	17	0.167	**0.447**	**0.616**	**1.25**	**1.37**	**1.07**	**1.3**	**1.9**	**1.43**	**4.07**
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	--	194	221	281	502	209	294	457	314	738
Cobalt	20	25	10.1	7.14 J	**16.5**	**14.2**	**15.5**	**17.3**	**15.3**	**26.4**	**28.6**	**21.9**
Copper	100	1500	58.5	**549 J**	**1380**	**858**	**760**	**354**	**1140**	**956**	**911**	**519**
Lead	75	400	125	**276**	**714**	**818**	**878**	**466**	**1970**	**922**	**1020**	**606**
Manganese	25	159.92	530	**518**	**1280**	**813**	**1050**	**978**	**987**	**3720**	**1320**	**1080**
Nickel	50	420	16.3	**54.9 J**	**178**	**171**	**249**	**91.7**	**141**	**295**	**190**	**185**
Vanadium	200	511.1	--	30.7	28.6	48.7	49.1	40.5	40.9	58.2	53.3	47.8
Zinc	291.9	2800	126	**643**	**1730**	**2040**	**8210**	**1190**	**2750**	**2650**	**2060**	**1940**
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	10	3.96	**5.87**	**9.47**	**15.7**	**13.6**	**4.13**	**14.3**	**27**	**20.7**	**20.3**
Arsenic	20	38.12	9.41	6.99	**36.2**	**10.5**	**17.2**	**12.9**	**17.7**	**16.3**	**19.3**	**14**
Beryllium	24.72	161.52	--	0.573	0.433	0.356	0.427	0.789	0.389	0.348	0.545	0.622
Cadmium	2.0	39	0.454	**1.92**	**9.0**	**5.96**	**8.7**	**9.8**	**8.65**	**9.31**	**7.13**	**5.74**
Chromium	100	108.93	43.9	**141**	**238**	**296**	**2100**	**107**	**232**	**566**	**448**	**178**
Selenium	2.0	36	0.957	< 0.866	**1.11**	< 0.935	**< 0.965**	< 0.733	< 0.89	< 0.799	< 0.919	**< 1.06**
Silver	2.0	10	--	0.411	0.698	1.27	1.21	0.538	1.37	**10.3**	**2.24**	0.788
Thallium	2.0	10	--	< 0.216	< 0.183	< 0.234	**< 2.41**	0.224	< 1.11	< 0.998	< 0.23	< 0.266
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	--	< 0.19	**< 4**	< 0.99	< 1	< 0.41	**< 2.1**	**< 1.9**	< 0.4	< 0.45
PCB-1248	1.55	1.55	--	**2.8**	**40**	**15**	**9.7**	**5.4**	**28**	**22**	**6.8**	**6.3**
PCB-1254	1.55	1.55	--	1.4	**10**	**11**	**3.9**	**6.6**	**11**	**20**	**4.5**	**4.5**
PCB-1260	1.55	1.55	--	0.32	**< 4**	< 0.99	< 1	< 0.41	**< 2.1**	**< 1.9**	< 0.4	< 0.45
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	--	< 0.18	< 0.2	< 0.39	< 0.41	< 0.21	< 1.0	< 0.95	< 0.2	< 1.1
2-Methylnaphthalene	1.0	2.11	--	< 0.093 UJ	0.28	< 0.2	< 0.21	0.31	< 0.52	0.57	0.21	< 0.57
3+4-Methylphenol (m,p-Cresol)	3.8	4.2	--	< 0.18	< 0.2	< 0.39	< 0.41	< 0.21	< 1.0	< 0.95	< 0.2	< 1.1
4-Chloroaniline	10	10	--	< 0.37 UJ	< 0.4	< 0.78	< 0.81	< 0.41	< 2.0	< 1.9	< 0.4	< 2.2
Acenaphthene	300	300	--	0.13 J	0.19	< 0.2	< 0.21	0.55	< 0.52	< 0.48	0.32	< 0.57
Acenaphthylene	130	130	--	< 0.093 UJ	< 0.1	< 0.2	< 0.21	0.19	< 0.52	< 0.48	< 0.1	< 0.57
Acetophenone	400	400	--	< 0.18 UJ	< 0.2	< 0.39	< 0.41	< 0.21	< 1.0	< 0.95	< 0.2	< 1.1
Anthracene	500	1000	--	0.31 J	0.32	0.34	0.49	1.0	0.68	1.3	0.9	< 0.57
Benzo(a)anthracene	5.0	5.0	--	1.0 J	1.5	2.5	1.6	2.3	1.1	4.2	3.0	1.2
Benzo(a)pyrene	1.64	1.64	--	1.1 J	**2.5**	**9.2**	**1.7**	**2.6**	1.6	**4.0**	**2.9**	**1.9**
Benzo(b)fluoranthene	5.0	5.0	--	1.8 J	3.0	**12**	2.4	3.9	2.2	*5.3*	4.6	2.9
Benzo(g,h,i)perylene	500	500	--	1.1 J	2.9	8.1	1.6	2.5	1.8	2.9	2.7	2
Benzo(k)fluoranthene	13.71	46	--	0.6 J	1.3	4.5	1.0	1.4	1.1	2.6	1.7	0.87
bis(2-Ethylhexyl)phthalate	50	50	--	3.5 J	1.1	2.2	< 2.1	2.4	16	33	3.6	< 5.7
Butyl benzyl phthalate	50	50	--	< 0.92 UJ	< 1	< 1.9	< 2.0	< 1.0	< 5.1	5.5	1.5	< 5.6
Chrysene	42	140	--	1.0 J	1.7	3.0	1.6	2.6	1.7	5.1	3.0	1.4
Dibenzo(a,h)anthracene	2.05	5.0	--	< 0.093 UJ	0.52	**2.4**	0.29	0.71	< 0.52	0.95	0.69	0.71
Diethyl phthalate	500	500	--	< 0.92 UJ	< 1.0	< 1.9	< 2	< 1.0	< 5.1	< 4.7	< 0.99	< 5.6
Dimethyl phthalate	40000	40000	--	< 0.92 UJ	< 1.0	< 1.9	< 2	< 1.0	< 5.1	< 4.7	< 0.99	< 5.6

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	MW-04 MW-4-0-2-022316 0-2 2/23/2016 Sample	SBO-01 SBO-01-0-2-022616 0-2 2/26/2016 Sample	SBO-02 SBO-02-0-2-022616 0-2 2/26/2016 Sample	SBO-03 SBO-03-0-2-022616 0-2 2/29/2016 Sample	SBO-04 SBO-04-0-2-022516 0-2 2/25/2016 Sample	SBO-05 SBO-05-0-2-022616 0-2 2/29/2016 Sample	SBO-06 SBO-06-0-2-022616 0-2 2/29/2016 Sample	SBO-07 SBO-07-0-2-022316 0-2 2/24/2016 Sample	SBO-08 SBO-08-0-2-022316 0-2 2/23/2016 Sample
Fluoranthene	500	500	--	2.0 J	1.9	3.1	3.0	4.1	2.8	9.5	5.5	1.9
Fluorene	360	360	--	0.14 J	0.51	< 0.2	< 0.21	0.48	< 0.52	< 0.48	0.36	< 0.57
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	0.94 J	2.3	**7.9**	1.4	2.2	1.6	2.5	2.3	1.6
Naphthalene	100	100	--	< 0.093 UJ	0.28	< 0.2	< 0.21	0.42	< 0.52	< 0.48	0.2	< 0.57
Phenanthrene	110	110	--	1.2 J	1.5	1.1	1.6	3.2	1.9	4.1	3.6	1.1
Phenol	400	400	--	0.41	0.34	< 0.39	< 0.41	2.2	1.6	< 0.95	< 0.2	< 1.1
Pyrene	500	500	--	2.1 J	2.2	2.7	2.4	3.3	2.8	10	5.2	1.9
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005
1,1-Dichloroethane	400	400	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	0.088	< 0.3	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	--	< 0.42	< 0.011	< 0.01	< 0.011	< 0.012	< 0.81	0.059	< 0.6	< 0.011
Acetone	400	400	--	< 0.84	0.046	0.052	0.054	0.083	< 1.6	0.37	< 1.2	0.05
Benzene	0.5	0.50	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005
Chloroethane	1.71	8.4	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	0.35	< 0.3	< 0.005
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005
Cyclohexane	20	20	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005
Ethylbenzene	70	70	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	3.1	0.007 JH	< 0.3	< 0.005
Methylcyclohexane	0.10	0.10	--	**< 0.21**	< 0.005	< 0.005	< 0.006	< 0.006	**< 0.4**	< 0.006	**< 0.3**	< 0.005
Methylene chloride (Dichloromethane)	0.5000	0.50	--	< 0.21	< 0.005	< 0.005	0.006	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005
Styrene	14	14	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	0.51	0.036 JH	4.4	< 0.005
Tetrachloroethene (PCE)	0.50	0.50	--	< 0.21	0.033 JH	< 0.005	< 0.006	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005
Toluene	100	100	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	0.009	< 0.3	< 0.005
Trichloroethene (TCE)	0.50	0.50	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.21	< 0.005	< 0.005	< 0.006	< 0.006	2.0	0.2	< 0.3	< 0.005
Xylenes, Total	1000	1000	--	< 0.21	< 0.005	0.022	< 0.006	< 0.006	8.5	0.013 JH	< 0.3	< 0.005

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA regulated compounds shown

Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-09 SBO-09-0-2-022616 0-2 2/26/2016 Sample	SBO-09 SBO-DUP-4-022616FD 0-2 2/26/2016 Duplicate	SBO-10 SBO-10-0-2-022316 0-2 2/23/2016 Sample	SS-01 SS-DUP-2-022516FD 0-2 2/25/2016 Duplicate	SS-01 SS-01-0-2-022516 0-2 2/25/2016 Sample	SS-02 SS-02-0-2-022516 0-2 2/25/2016 Sample	SS-03 SS-03-0-2-022516 0-2 2/25/2016 Sample	SS-04 SS-04-0-2-022516 0-2 2/25/2016 Sample	SS-05 SS-05-0-2-022516 0-2 2/25/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	--	< 0.13	< 0.13	< 0.14	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.50	17	0.167	**1.23**	**0.981**	**0.764**	**0.418**	**0.58**	**< 0.235**	**< 0.215**	**< 0.221**	**< 0.22**
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	--	331	259	185	229	241	176	148 J	140	98.4
Cobalt	20	25	10.1	**14**	**13.4**	**11.3**	7.33	8.28	9.15	9.47	7.17	6.04
Copper	100	1500	58.5	**732**	**459**	**240**	**118**	**107**	**151**	55.1	**62.5**	**117**
Lead	75	400	125	**746**	**603**	**325**	**522**	**378**	**207**	**159**	**129**	**328**
Manganese	25	159.92	530	**1070**	**1020**	**830**	**161**	**152**	**658**	**747 J**	**336**	**289**
Nickel	50	420	16.3	**139**	**155**	**78.6**	14.6	15.4	**31.7**	9.36	11.3	5.81
Vanadium	200	511.1	--	41.6	33.2	35.1	52.1	53.5	41.3	39.4	37.3	31.5
Zinc	291.9	2800	126	**2100**	**1860**	**1000**	44.2	45.9	**191**	101 JL	111	**192**
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	10	3.96	**18.4**	**15.2**	**6.74**	**25.7**	**12.3**	**4.65**	1.65 JL	1.08	1.96
Arsenic	20	38.12	9.41	**12.3**	**11.6**	9.25	**26.9**	**33.7**	**50**	8.77	**11.9**	**11.7**
Beryllium	24.72	161.52	--	0.351	0.411	0.722	0.853	0.818	0.898	1.18 JL	0.726	0.554
Cadmium	2.0	39	0.454	**14.8**	**10.8**	**2.68**	**0.684**	**0.662**	**1.31**	0.26	**0.522**	**0.542**
Chromium	100	108.93	43.9	**320**	**320**	**166**	18.2	17.6	**57.5**	23.6	20.4	16
Selenium	2.0	36	0.957	< 0.897	**12.9**	< 0.913	**1.61**	**1.8**	< 0.837	< 0.79	0.796	< 0.869
Silver	2.0	10	--	1.03	0.706	0.272	0.296	0.248	0.306	< 0.197	< 0.186	0.647
Thallium	2.0	10	--	< 0.224	< 0.219	< 0.228	< 0.231	< 0.211	0.233	0.329	< 0.186	0.241
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	--	**< 1.9**	< 0.95	< 0.2	< 0.02	< 0.021	< 0.21	< 0.019	< 0.02	< 0.02
PCB-1248	1.55	1.55	--	**13 J**	**7.3 J**	**3.0**	< 0.02	< 0.021	0.41	< 0.019	< 0.02	< 0.02
PCB-1254	1.55	1.55	--	**8.3 J**	**4.7 J**	1.5	< 0.02	< 0.021	0.4	0.038	0.049	< 0.02
PCB-1260	1.55	1.55	--	**< 1.9**	< 0.95	< 0.2	< 0.02	< 0.021	< 0.21	< 0.019	0.031	< 0.02
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	--	0.86	< 0.37	< 0.19	< 0.2	< 0.041	< 0.04	< 0.037 UL	< 0.39	< 0.039
2-Methylnaphthalene	1.0	2.11	--	0.4	0.23	0.15	0.97	0.96	0.48	0.071	1.0	0.1
3+4-Methylphenol (m,p-Cresol)	3.8	4.2	--	0.69	< 0.37	< 0.19	< 0.2	< 0.041	< 0.04	< 0.037	< 0.39	< 0.039
4-Chloroaniline	10	10	--	< 0.38	< 0.74	< 0.38	< 0.4	< 0.082	< 0.08	< 0.075	< 0.77	< 0.078
Acenaphthene	300	300	--	1.0 J	0.22 J	0.22	< 0.1	< 0.021	0.047	< 0.019	< 0.2	< 0.02
Acenaphthylene	130	130	--	0.13	< 0.19	< 0.097	< 0.1	0.045	0.14	< 0.019	< 0.2	< 0.02
Acetophenone	400	400	--	< 0.19	< 0.37	1.1	< 0.2	0.082	0.068	< 0.037	< 0.39	< 0.039
Anthracene	500	1000	--	3.4 J	0.77 J	0.62	< 0.1	0.065	0.22	< 0.019	< 0.2	< 0.02
Benzo(a)anthracene	5.0	5.0	--	**6.1 J**	1.6 J	2.1	0.17	0.2	0.74	0.048	0.28	0.043
Benzo(a)pyrene	1.64	1.64	--	**5.3 J**	**1.8 J**	**2.2**	< 0.1	0.16	0.76	0.044	0.25	0.037
Benzo(b)fluoranthene	5.0	5.0	--	**7.1 J**	3 J	3.0	0.18	0.23	1.2	0.068	0.41	0.06
Benzo(g,h,i)perylene	500	500	--	4.1 J	1.8 J	1.8	0.15	0.18	0.64	0.045	0.26	0.041
Benzo(k)fluoranthene	13.71	46	--	2.8 J	1.1 J	1.2	< 0.1	0.085	0.48	0.027	< 0.2	< 0.02
bis(2-Ethylhexyl)phthalate	50	50	--	**60 J**	19 J	3.5	< 1.0	< 0.21	0.35	< 0.19	< 2	< 0.2
Butyl benzyl phthalate	50	50	--	1.5	< 1.9	< 0.95	< 1.0	< 0.21	< 0.2	< 0.19	< 1.9	< 0.2
Chrysene	42	140	--	6.6 J	1.6 J	2.1	0.3	0.36	0.84	0.082	0.51	0.061
Dibenzo(a,h)anthracene	2.05	5.0	--	1.1 J	0.46 J	0.58	< 0.1	0.05	0.19	< 0.019	< 0.2	< 0.02
Diethyl phthalate	500	500	--	< 0.94	< 1.9	< 0.95	< 1.0	< 0.21	< 0.2	< 0.19	< 1.9	< 0.2
Dimethyl phthalate	40000	40000	--	3.0	4.8	< 0.95	< 1.0	< 0.21	< 0.2	< 0.19	< 1.9	< 0.2

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-09 SBO-09-0-2-022616 0-2 2/26/2016 Sample	SBO-09 SBO-DUP-4-022616FD 0-2 2/26/2016 Duplicate	SBO-10 SBO-10-0-2-022316 0-2 2/23/2016 Sample	SS-01 SS-DUP-2-022516FD 0-2 2/25/2016 Duplicate	SS-01 SS-01-0-2-022516 0-2 2/25/2016 Sample	SS-02 SS-02-0-2-022516 0-2 2/25/2016 Sample	SS-03 SS-03-0-2-022516 0-2 2/25/2016 Sample	SS-04 SS-04-0-2-022516 0-2 2/25/2016 Sample	SS-05 SS-05-0-2-022516 0-2 2/25/2016 Sample
Fluoranthene	500	500	--	14 J	3.1 J	3.8	0.17	0.2	0.97	0.065	0.39	0.061
Fluorene	360	360	--	1.5 J	0.25 J	0.22	< 0.1	0.028	0.03	< 0.019	< 0.2	< 0.02
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	3.6 J	1.5 J	1.7	< 0.1	0.086	0.56	0.033	< 0.2	0.033
Naphthalene	100	100	--	0.47	0.28	0.14	0.58	0.59	0.34	0.048	0.66	0.08
Phenanthrene	110	110	--	13 J	2.2 J	2.2	0.73	0.89	0.7	0.089	1.0	0.089
Phenol	400	400	--	0.7	< 0.37	< 0.19	< 0.2	< 0.041	< 0.04	< 0.037	< 0.39	< 0.039
Pyrene	500	500	--	14 J	3.3 J	4.1	0.22	0.27	0.99	0.065	0.43	0.064
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	0.007 JH	1.1 JL	< 0.009	< 0.005
1,1-Dichloroethane	400	400	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	--	0.018	< 0.01	0.014	< 0.011	< 0.014	< 0.013	< 0.55	< 0.018	< 0.009
Acetone	400	400	--	0.094	0.057	0.099	< 0.023	< 0.028	0.055 JH	< 1.1	< 0.035	< 0.019
Benzene	0.5	0.50	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Chloroethane	1.71	8.4	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Cyclohexane	20	20	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Ethylbenzene	70	70	--	0.02	< 0.005	0.012	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Methylcyclohexane	0.10	0.10	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	**< 0.27**	< 0.009	< 0.005
Methylene chloride (Dichloromethane)	0.5000	0.50	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Styrene	14	14	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Tetrachloroethene (PCE)	0.50	0.50	--	< 0.005	< 0.005	< 0.005	0.006 JH	0.021 JH	0.35 JH	**33 J**	0.08	0.11
Toluene	100	100	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Trichloroethene (TCE)	0.50	0.50	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	0.009 JH	**0.77 JL**	< 0.009	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.005	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005
Xylenes, Total	1000	1000	--	0.022	< 0.005	< 0.005	< 0.006	< 0.007	< 0.006	< 0.27	< 0.009	< 0.005

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA regulated compounds shown

Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SS-06 SS-06-0-2-022516 0-2 2/25/2016 Sample	SS-07 SS-07-0-2-022416 0-2 2/24/2016 Sample	SS-08 SS-08-0-2-022416 0-2 2/24/2016 Sample	SS-09 SS-09-0-2-022416 0-2 2/24/2016 Sample	SS-10 SS-10-0-2-022416 0-2 2/24/2016 Sample	SS-11 SS-11-0-2-022416 0-2 2/24/2016 Sample	SS-12 SS-DUP-01-022416FD 0-2 2/24/2016 Duplicate	SS-12 SS-12-0-2-022416 0-2 2/24/2016 Sample	SS-13 SS-13-0-2-022416 0-2 2/24/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.50	17	0.167	**< 0.214**	**< 0.218**	**< 0.214**	**< 0.23**	**< 0.214**	**< 0.222**	**< 0.225**	**< 0.226**	**0.669**
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	--	91.2	153	61.4	137	112	146	181	185	160
Cobalt	20	25	10.1	6.98	10.1	5.27	7.13	7.31	7.14	6.43	6.93	**11.2**
Copper	100	1500	58.5	**156**	**99**	39.1	50.7	**97.5**	**81.3**	**66.4**	**80.4**	**1370**
Lead	75	400	125	72.4	**177**	37.8	61	**146**	**152**	**134**	**107**	**357**
Manganese	25	159.92	530	**398**	**574**	**289**	**469**	**571**	**682**	**523**	**569**	**696**
Nickel	50	420	16.3	**27.8**	13.6	6.07	8.47	**47.4**	14.8	9.52	9.66	**215**
Vanadium	200	511.1	--	31.7	41.9	30.8	35.1	40.9	24.4	30.2	31.5	25.5
Zinc	291.9	2800	126	80.8	**132**	58.7	77.6	**309**	**270**	**190**	**155**	**571**
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	10	3.96	1.34	1.9	< 0.448	1.4	3.3	2.04	1.7	1.49	**5.05**
Arsenic	20	38.12	9.41	**10.6**	**9.85**	2.6	**92.2**	**16.6**	7.19	**10.4**	**14.8**	**10.1**
Beryllium	24.72	161.52	--	0.464	0.681	0.398	0.607	0.573	0.819	0.74	0.789	0.484
Cadmium	2.0	39	0.454	< 0.21	0.443	< 0.224	0.278	**1.43**	**1.0**	**0.814**	**0.727**	**4.19**
Chromium	100	108.93	43.9	27.1	29.7	12.8	19.3	**46.8**	22.2	19	19	**483**
Selenium	2.0	36	0.957	< 0.841	< 0.705	< 0.895	< 0.899	< 0.873	< 0.909	< 0.921	< 0.882	< 0.936
Silver	2.0	10	--	< 0.21	0.258	< 0.224	< 0.225	< 0.218	< 0.227	< 0.23	< 0.221	0.319
Thallium	2.0	10	--	0.215	0.299	< 0.224	0.249	< 0.218	< 0.227	< 0.23	0.226	< 0.234
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	--	< 0.95	< 0.094	< 0.019	< 0.2	**< 1.9**	< 0.2	< 0.02	< 0.097	**< 9.9**
PCB-1248	1.55	1.55	--	< 0.95	< 0.094	< 0.019	< 0.2	**< 1.9**	1.4	< 0.02	< 0.097	**< 9.9**
PCB-1254	1.55	1.55	--	< 0.95	0.97	0.035	< 0.2	**< 1.9**	0.71	0.028 J	< 0.097	**< 9.9**
PCB-1260	1.55	1.55	--	< 0.95	< 0.094	< 0.019	< 0.2	**< 1.9**	< 0.2	0.033	< 0.097	**< 9.9**
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	--	< 0.038	< 0.037	< 0.038	< 0.038	< 0.037	< 0.038	< 0.98	< 0.95	< 0.96
2-Methylnaphthalene	1.0	2.11	--	0.044	0.31	< 0.019	0.78	0.7	0.23	< 0.5	< 0.48	< 0.49
3+4-Methylphenol (m,p-Cresol)	3.8	4.2	--	< 0.038	< 0.037	< 0.038	< 0.038	< 0.037	< 0.038	< 0.98	< 0.95	< 0.96
4-Chloroaniline	10	10	--	< 0.075	< 0.073	< 0.075	< 0.077	< 0.074	< 0.077	< 2.0	< 1.9	< 1.9
Acenaphthene	300	300	--	< 0.019	< 0.019	< 0.019	< 0.02	0.11	< 0.02	< 0.5	< 0.48	< 0.49
Acenaphthylene	130	130	--	< 0.019	< 0.019	< 0.019	< 0.02	0.029	< 0.02	< 0.5	< 0.48	1.1
Acetophenone	400	400	--	< 0.038	< 0.037	< 0.038	0.068	< 0.037	< 0.038	< 0.98	< 0.95	< 0.96
Anthracene	500	1000	--	< 0.019	0.028	< 0.019	0.036	0.12	0.053	< 0.5	< 0.48	1.0
Benzo(a)anthracene	5.0	5.0	--	0.063	0.11	0.093	0.13	1.3	0.2	< 0.5	< 0.48	3.9
Benzo(a)pyrene	1.64	1.64	--	0.047	0.16	0.092	0.11	**3.1**	0.28	< 0.5	< 0.48	**5.7**
Benzo(b)fluoranthene	5.0	5.0	--	0.13	0.24	0.14	0.18	3.5	0.34	< 0.5	0.52	**8.8**
Benzo(g,h,i)perylene	500	500	--	0.07	0.17	0.076	0.14	3.8	0.3	< 0.5	0.5	4.8
Benzo(k)fluoranthene	13.71	46	--	0.028	0.098	0.05	0.065	1.4	0.13	< 0.5	< 0.48	3.7
bis(2-Ethylhexyl)phthalate	50	50	--	< 0.19	< 0.19	< 0.19	< 0.2	< 0.19	< 0.2	< 5.0	< 4.8	< 4.9
Butyl benzyl phthalate	50	50	--	< 0.19	< 0.18	< 0.19	< 0.19	< 0.18	< 0.19	< 4.9	< 4.7	< 4.8
Chrysene	42	140	--	0.12	0.2	0.079	0.17	1.4	0.22	< 0.5	< 0.48	4.2
Dibenzo(a,h)anthracene	2.05	5.0	--	0.021	0.079	< 0.019	0.05	0.79	0.027	< 0.5	< 0.48	1.8
Diethyl phthalate	500	500	--	< 0.19	< 0.18	< 0.19	< 0.19	< 0.18	< 0.19	< 4.9	< 4.7	< 4.8
Dimethyl phthalate	40000	40000	--	< 0.19	< 0.18	< 0.19	< 0.19	< 0.18	< 0.19	< 4.9	< 4.7	< 4.8

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SS-06 SS-06-0-2-022516 0-2 2/25/2016 Sample	SS-07 SS-07-0-2-022416 0-2 2/24/2016 Sample	SS-08 SS-08-0-2-022416 0-2 2/24/2016 Sample	SS-09 SS-09-0-2-022416 0-2 2/24/2016 Sample	SS-10 SS-10-0-2-022416 0-2 2/24/2016 Sample	SS-11 SS-11-0-2-022416 0-2 2/24/2016 Sample	SS-12 SS-DUP-01-022416FD 0-2 2/24/2016 Duplicate	SS-12 SS-12-0-2-022416 0-2 2/24/2016 Sample	SS-13 SS-13-0-2-022416 0-2 2/24/2016 Sample
Fluoranthene	500	500	--	0.13	0.13	0.13	0.17	1.2	0.31	< 0.5	< 0.48	3.6
Fluorene	360	360	--	< 0.019	< 0.019	< 0.019	< 0.02	0.035	< 0.02	< 0.5	< 0.48	< 0.49
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	0.047	0.11	0.067	0.1	3.0	0.24	< 0.5	< 0.48	4.4
Naphthalene	100	100	--	0.029	0.25	< 0.019	0.63	0.59	0.21	< 0.5	< 0.48	< 0.49
Phenanthrene	110	110	--	0.1	0.24	0.05	0.44	0.67	0.25	< 0.5	< 0.48	0.65
Phenol	400	400	--	< 0.038	< 0.037	< 0.038	< 0.038	< 0.037	< 0.038	< 0.98	< 0.95	< 0.96
Pyrene	500	500	--	0.09	0.16	0.15	0.18	1.4	0.33	< 0.5	< 0.48	5.3
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	--	< 0.27	0.013	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
1,1-Dichloroethane	400	400	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
2-Butanone (Methyl ethyl ketone)	200	200	--	< 0.55	< 0.01	< 0.008	< 0.01	< 0.009	< 0.009	< 0.55	< 0.6	< 0.69
Acetone	400	400	--	< 1.1	< 0.019	0.037	0.029	< 0.019	0.05	< 1.1	< 1.2	< 1.4
Benzene	0.5	0.50	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
Chloroethane	1.71	8.4	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
Cyclohexane	20	20	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	0.37
Ethylbenzene	70	70	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
Methylcyclohexane	0.10	0.10	--	**< 0.27**	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	**< 0.28**	**< 0.3**	**1.1**
Methylene chloride (Dichloromethane)	0.5000	0.50	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
Styrene	14	14	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
Tetrachloroethene (PCE)	0.50	0.50	--	**21**	**38**	0.009 J	0.018 J	0.023 J	0.047 J	**3 J**	**1.7 J**	< 0.34
Toluene	100	100	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28 UJ	1.2 J	1.2
Trichloroethene (TCE)	0.50	0.50	--	< 0.27	0.03	< 0.004	< 0.005	0.01 J	< 0.005 UJ	< 0.28	< 0.3	< 0.34
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	< 0.3	< 0.34
Xylenes, Total	1000	1000	--	< 0.27	< 0.005	< 0.004	< 0.005	< 0.005	< 0.005	< 0.28	1.3	1.3

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA regulated compounds shown

Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SS-14 SS-14-0-2-022516 0-2 2/26/2016 Sample	SS-15 SS-15-0-2-022316 0-2 2/23/2016 Sample	SS-16 SS-16-0-2-022516 0-2 2/26/2016 Sample	SS-17 SS-17-0-2-022516 0-2 2/26/2016 Sample	SS-18 SS-18-0-2-022516 0-2 2/26/2016 Sample	SS-19 SS-19-0-2-022516 0-2 2/26/2016 Sample	SS-20 SS-20-0-2-022516 0-2 2/26/2016 Sample
Explosives - SW846 8330B, mg/kg										
4-Nitrotoluene	1.12	1.12	--	NA	< 0.13	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg										
Mercury	0.50	17	0.167	**2.46**	**1.11**	**0.409**	**< 0.215**	**0.279**	**< 0.21**	**< 0.209**
Metals, Total - SW846 6010C, mg/kg										
Barium	1000	1000	--	970	193	232	60.7	478	79.9	103
Cobalt	20	25	10.1	**25.3**	**11.8**	10.1	3.57	< 1.21	3.8	4.38
Copper	100	1500	58.5	**3780**	**660**	**986**	10.9	32	**98.4**	**106**
Lead	75	400	125	**847**	**846**	**568**	10.2	**84.7**	**131**	**114**
Manganese	25	159.92	530	**1990**	**1030**	**944**	**342**	**1600**	**286**	**517**
Nickel	50	420	16.3	**247**	**170**	**55.5**	3.08	4.83	**19.8**	**20.4**
Vanadium	200	511.1	--	43.8	39	29.3	10.8	21	18.2	16.9
Zinc	291.9	2800	126	**2480**	**1320**	**1940**	20.4	108	**178**	**140**
Metals, Total - SW846 6020A, mg/kg										
Antimony	4.0	10	3.96	**44.2**	**32.7**	**4.48**	< 0.425	0.862	1.6	1.41
Arsenic	20	38.12	9.41	**23.6**	**11.6**	**15.4**	2.38	7.12	2.36	5.28
Beryllium	24.72	161.52	--	0.309	0.354	1.37	0.473	**4.38**	< 0.216	0.458
Cadmium	2.0	39	0.454	**5.92**	**4.94**	**4.31**	< 0.212	**0.834**	**0.699**	**0.808**
Chromium	100	108.93	43.9	**510**	**248**	**88.4**	6.49	8.98	23.1	29.8
Selenium	2.0	36	0.957	< 0.66	< 0.924	< 0.722	< 0.85	**< 0.965**	< 0.862	< 0.682
Silver	2.0	10	--	1.13	0.98	0.379	< 0.212	< 0.241	< 0.216	< 0.171
Thallium	2.0	10	--	< 0.825	< 1.15	< 0.18	< 0.212	0.483	< 0.216	< 0.853
Polychlorinated Biphenyls - SW846 8082A, mg/kg										
PCB-1242	1.55	1.55	--	**< 1.9**	< 0.4	< 0.4	< 0.019	< 0.11	< 0.094	< 0.93
PCB-1248	1.55	1.55	--	**14**	**4.4**	< 0.4	< 0.019	< 0.11	0.48	< 0.93
PCB-1254	1.55	1.55	--	**8.0**	**4.9**	**2.9**	< 0.019	0.52	0.85	< 0.93
PCB-1260	1.55	1.55	--	**< 1.9**	< 0.4	1.4	< 0.019	0.22	< 0.094	< 0.93
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg										
2,4-Dimethylphenol	70	70	--	< 0.19	< 0.98	< 0.19	< 0.037	< 0.042	< 0.037	< 0.036
2-Methylnaphthalene	1.0	2.11	--	0.11	< 0.5	0.1	< 0.019	0.046	0.024	0.32
3+4-Methylphenol (m,p-Cresol)	3.8	4.2	--	< 0.19	< 0.98	< 0.19	< 0.037	< 0.042	< 0.037	< 0.036
4-Chloroaniline	10	10	--	< 0.39	< 2	< 0.39	< 0.075	< 0.084	< 0.074	< 0.072
Acenaphthene	300	300	--	0.21	< 0.5	< 0.099	< 0.019	< 0.021	< 0.019	< 0.018
Acenaphthylene	130	130	--	0.12	< 0.5	< 0.099	< 0.019	< 0.021	0.02	0.043
Acetophenone	400	400	--	< 0.19	< 0.98	< 0.19	< 0.037	< 0.042	< 0.037	< 0.036
Anthracene	500	1000	--	0.67	1.2	0.16	< 0.019	0.026	0.046	0.078
Benzo(a)anthracene	5.0	5.0	--	2.0	3.9	0.31	< 0.019	0.041	0.081 JH	0.12
Benzo(a)pyrene	1.64	1.64	--	**2.2**	**3.7**	0.48	< 0.019	0.061 JH	0.11 JH	0.24
Benzo(b)fluoranthene	5.0	5.0	--	3.1	5.3	0.66	< 0.019	0.1 JH	0.23 JH	0.58
Benzo(g,h,i)perylene	500	500	--	1.8	2.5	0.51	< 0.019	0.076 JH	0.14 JH	0.26
Benzo(k)fluoranthene	13.71	46	--	1.1	2.2	0.32	< 0.019	< 0.021	0.061 JH	0.17
bis(2-Ethylhexyl)phthalate	50	50	--	5.0	< 5.0	< 0.99	< 0.19	**58**	0.23 JH	0.2
Butyl benzyl phthalate	50	50	--	< 0.97	< 4.9	< 0.97	< 0.19	< 0.21	< 0.19	< 0.18
Chrysene	42	140	--	1.9	3.9	0.34	< 0.019	0.061	0.09 JH	0.23
Dibenzo(a,h)anthracene	2.05	5.0	--	0.41	0.94	0.12	< 0.019	0.026 JH	< 0.019	0.056
Diethyl phthalate	500	500	--	< 0.97	< 4.9	< 0.97	< 0.19	< 0.21	< 0.19	< 0.18
Dimethyl phthalate	40000	40000	--	2.4	< 4.9	< 0.97	< 0.19	< 0.21	< 0.19	< 0.18

Table 2: Summary of Surface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SS-14 SS-14-0-2-022516 0-2 2/26/2016 Sample	SS-15 SS-15-0-2-022316 0-2 2/23/2016 Sample	SS-16 SS-16-0-2-022516 0-2 2/26/2016 Sample	SS-17 SS-17-0-2-022516 0-2 2/26/2016 Sample	SS-18 SS-18-0-2-022516 0-2 2/26/2016 Sample	SS-19 SS-19-0-2-022516 0-2 2/26/2016 Sample	SS-20 SS-20-0-2-022516 0-2 2/26/2016 Sample
Fluoranthene	500	500	--	3.3	9.6	0.57	< 0.019	0.064	0.11	0.17
Fluorene	360	360	--	0.2	0.75	< 0.099	< 0.019	< 0.021	< 0.019	< 0.018
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	1.7	2.5	0.45	< 0.019	0.099 JH	0.16 JH	0.23
Naphthalene	100	100	--	0.11	< 0.5	0.11	< 0.019	0.031	0.02	0.3
Phenanthrene	110	110	--	2.1	8.1	0.42	< 0.019	0.063	0.068	0.1
Phenol	400	400	--	< 0.19	1.6	< 0.19	< 0.037	< 0.042	< 0.037	< 0.036
Pyrene	500	500	--	3.2	7.6	0.59	< 0.019	0.074	0.13 JH	0.28
Volatile Organic Compounds - SW846 8260C, mg/kg										
1,1,1-Trichloroethane	20	20	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
1,1-Dichloroethane	400	400	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	--	< 0.013	0.024	< 0.009	0.01	< 0.012	< 0.011	< 0.009
Acetone	400	400	--	0.04	0.18	0.033 JH	< 0.017	< 0.023	< 0.022	0.055
Benzene	0.5	0.50	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	0.006 JH	< 0.005
Chloroethane	1.71	8.4	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Cyclohexane	20	20	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Ethylbenzene	70	70	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Methylcyclohexane	0.10	0.10	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Methylene chloride (Dichloromethane)	0.5000	0.50	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Styrene	14	14	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Tetrachloroethene (PCE)	0.50	0.50	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Toluene	100	100	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Trichloroethene (TCE)	0.50	0.50	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005
Xylenes, Total	1000	1000	--	< 0.007	< 0.005	< 0.005	< 0.004	< 0.006	< 0.005	< 0.005

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA regulated compounds shown

Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)

EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	BK-01 BK-1-2-4-062316 2-4 6/23/2016 Sample	BK-02 BK-2-2-4-062316 2-4 6/23/2016 Sample	BK-03 BK-3-2-4-062316 2-4 6/23/2016 Sample	BK-03 BK-DUP2-062316 2-4 6/23/2016 Duplicate	BK-04 BK-4-2-4-062316 2-4 6/23/2016 Sample	BK-07 BK-7-2-4-062316 2-4 6/23/2016 Sample	BK-08 BK-8-2-4-062316 2-4 6/23/2016 Sample	BK-09 BK-9-2-4-062316 2-4 6/23/2016 Sample	BK-10 BK-10-2-4-062316 2-4 6/23/2016 Sample	BK-10 BK-DUP4-062316 2-4 6/23/2016 Duplicate
Explosives - SW846 8330B, mg/kg													
4-Nitrotoluene	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg													
Mercury	0.50	17	0.167	0.119	< 0.113	< 0.123	< 0.118	< 0.111	< 0.105	0.167	< 0.106	< 0.103	< 0.11
Metals, Total - SW846 6010C, mg/kg													
Barium	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	20	25	10.1	7.87	7.91	**12**	**10.4**	4.16	3.57	**18.1**	5.94	8.05	9.08
Copper	100	1500	58.5	30.7	35.9	20.8	19.2	36.3	4.84	21.5	32.3	32.4	28.7
Lead	75	400	125	25.8	14.7	18.6	17.1	72.2	5.9	44.3	8.75	9.66	8.96
Manganese	25	160	530	**531**	**272**	**341**	**320**	**188**	**190**	**3980**	**308**	**201**	**222**
Nickel	50	420	16.3	11.9	13.7	15.7	15.7	5.82	10.8	**17**	9.72	12.6	10.7
Vanadium	200	511.1	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	291.9	2800	126	54.8	57.9	63.8	59.6	81	31.2	97	41.7	47.7	42.4
Metals, Total - SW846 6020A, mg/kg													
Antimony	4.0	10	3.96	< 0.333 UJ	< 0.337	< 0.478	< 0.472	0.758	< 0.316	< 0.427	< 0.399	< 0.431	< 0.347
Arsenic	20	41	9.41	2.73	3.01	2.84	2.87	4.83	1.26	5.46	2.4	2.97	1.79
Beryllium	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	39	0.454	< 0.166	< 0.168	< 0.239	< 0.236	< 0.203	< 0.158	< 0.213	< 0.2	< 0.215	< 0.173
Chromium	100	1200	43.9	28.1 JL	37.2	36.9	36.2	10.8	10.7	36.1	19.5	38.4	24.1
Selenium	2.0	36	0.957	< 0.665	< 0.674	< 0.957	< 0.944	< 0.814	< 0.632	< 0.853	< 0.798	< 0.861	< 0.694
Silver	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg													
PCB-1242	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg													
2,4-Dimethylphenol	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	13.71	46.06	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	BK-01 BK-1-2-4-062316 2-4 6/23/2016 Sample	BK-02 BK-2-2-4-062316 2-4 6/23/2016 Sample	BK-03 BK-3-2-4-062316 2-4 6/23/2016 Sample	BK-03 BK-DUP2-062316 2-4 6/23/2016 Duplicate	BK-04 BK-4-2-4-062316 2-4 6/23/2016 Sample	BK-07 BK-7-2-4-062316 2-4 6/23/2016 Sample	BK-08 BK-8-2-4-062316 2-4 6/23/2016 Sample	BK-09 BK-9-2-4-062316 2-4 6/23/2016 Sample	BK-10 BK-10-2-4-062316 2-4 6/23/2016 Sample	BK-10 BK-DUP4-062316 2-4 6/23/2016 Duplicate
Fluoranthene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds - SW846 8260C, mg/kg													
1,1,1-Trichloroethane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	1.71	8.37	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	0.10	0.10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA Regulated Compounds
Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-02-120 DT-2-120-2-3-062316 2-3 6/23/2016 Sample	DT-03-40 DT-3-40-2-4-062316 2-4 6/23/2016 Sample	DT-04-50 DT-4-50-2-4-062216 2-4 6/22/2016 Sample	DT-05-50 DT-5-50-2-4-062216 2-4 6/22/2016 Sample	DT-06-35 DT-6-35-2-4-062116 2-4 6/21/2016 Sample	DT-08-Offset DT-8-2-4-062316_OFFSET 2-4 6/23/2016 Sample	DT-09-105 DT-9-105-2-4-062316 2-4 6/23/2016 Sample	DT-10B DT-10B-2-3.5-062216 2-3.5 6/22/2016 Sample
Explosives - SW846 8330B, mg/kg											
4-Nitrotoluene	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg											
Mercury	0.50	17	0.167	NA	NA	NA	NA	NA	0.124	NA	0.144
Metals, Total - SW846 6010C, mg/kg											
Barium	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	20	25	10.1	NA	NA	NA	NA	NA	NA	NA	8.05
Copper	100	1500	58.5	NA	NA	23.3	NA	30.3	NA	NA	42.8
Lead	75	400	125	**85**	33.1	21.7	25.3	52	NA	NA	64.9
Manganese	25	160	530	**86.3**	**530**	**287**	**458**	**343**	**552**	**352**	**504**
Nickel	50	420	16.3	7.37	**18**	NA	NA	10.7	NA	NA	9.88
Vanadium	200	511.1	--	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	291.9	2800	126	NA	NA	76.4	NA	NA	NA	80.7	109
Metals, Total - SW846 6020A, mg/kg											
Antimony	4.0	10	3.96	**4.56**	1.17	< 0.465	< 0.317	NA	NA	NA	< 0.4
Arsenic	20	41	9.41	NA	NA	5.36	NA	NA	NA	4.88	5.56
Beryllium	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	39	0.454	< 0.2	< 0.238	< 0.232	< 0.159	NA	NA	< 0.217	0.218
Chromium	100	1200	43.9	19.5	**121**	42.1	NA	16.5	NA	NA	26.5
Selenium	2.0	36	0.957	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg											
PCB-1242	1.55	1.55	--	< 0.018	< 0.02	< 0.02	NA	< 0.019	NA	< 0.019	< 0.019
PCB-1248	1.55	1.55	--	< 0.018	< 0.02	< 0.02	NA	< 0.019	NA	< 0.019	< 0.019
PCB-1254	1.55	1.55	--	< 0.018	< 0.02	< 0.02	NA	0.062 JH	NA	< 0.019	< 0.019
PCB-1260	1.55	1.55	--	< 0.018	< 0.02	< 0.02	NA	< 0.019	NA	< 0.019	< 0.019
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg											
2,4-Dimethylphenol	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	--	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	--	0.024	NA	< 0.02	NA	0.25	NA	NA	NA
Benzo(b)fluoranthene	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	13.71	46.06	--	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-02-120 DT-2-120-2-3-062316 2-3 6/23/2016 Sample	DT-03-40 DT-3-40-2-4-062316 2-4 6/23/2016 Sample	DT-04-50 DT-4-50-2-4-062216 2-4 6/22/2016 Sample	DT-05-50 DT-5-50-2-4-062216 2-4 6/22/2016 Sample	DT-06-35 DT-6-35-2-4-062116 2-4 6/21/2016 Sample	DT-08-Offset DT-8-2-4-062316_OFFSET 2-4 6/23/2016 Sample	DT-09-105 DT-9-105-2-4-062316 2-4 6/23/2016 Sample	DT-10B DT-10B-2-3.5-062216 2-3.5 6/22/2016 Sample
Fluoranthene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds - SW846 8260C, mg/kg											
1,1,1-Trichloroethane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	1.71	8.37	--	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	0.10	0.10	--	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.50	0.50	--	NA	NA	NA	NA	0.009	NA	NA	NA
Toluene	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.50	0.50	--	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA Regulated Compounds
Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-11B DT-11B-2-4-062216 2-4 6/22/2016 Sample	DT-12B DT-12B-2-4-062216 2-4 6/22/2016 Sample	MW-01 MW-1-6-8-022516 6-8 2/25/2016 Sample	MW-01 MW-1-12-14-022516 12-14 2/25/2016 Sample	MW-02 MW-2-2-4-022516 2-4 2/25/2016 Sample	MW-02 MW-2-6-8-022516 6-8 2/25/2016 Sample	MW-02 MW-2-12-14-022516 12-14 2/25/2016 Sample	MW-03 MW-3-2-4-022416 2-4 2/24/2016 Sample	MW-03 MW-3-6-8-022416 6-8 2/24/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	--	NA	NA	< 0.13	< 0.12	< 0.13	< 0.13	< 0.12	< 0.13	< 0.13
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.50	17	0.167	NA	NA	**< 0.221**	**< 0.197**	**< 0.219**	**< 0.219**	**< 0.205**	**1.96**	**< 0.208**
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	--	NA	NA	69	10.5	383	57.6	17.2	505	105
Cobalt	20	25	10.1	NA	NA	5.17	2.83	8.67	6.79	1.8	**21.1**	7.01
Copper	100	1500	58.5	NA	24.4	17.3	2.47	**258**	23.6	5.77	**655**	**114**
Lead	75	400	125	11.5	17.3	5.65	< 2.35	**1170**	7.03	< 2.98	**2450**	**152**
Manganese	25	160	530	**393**	**250**	**247**	**219**	**648**	**154**	**82.3**	**1120**	**246**
Nickel	50	420	16.3	NA	**19.9**	5.89	< 1.57	**92**	7.33	< 1.98	**191**	**23.6**
Vanadium	200	511.1	--	NA	NA	29.5	5.11	29.3	42.6	9.65	31.5	34.6
Zinc	291.9	2800	126	NA	NA	28.1	3.58	**2820**	34.1	7.33	**8680**	**650**
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	10	3.96	NA	< 0.436	< 0.376	< 0.313	3.6	< 0.402	< 0.397	**29.3**	1.22
Arsenic	20	41	9.41	NA	NA	1.73	< 0.627	**16.8**	1.85	< 0.794	**29.4**	2.66
Beryllium	24.72	161.52	--	NA	NA	0.587	< 0.157	1.02	0.602	< 0.198	0.569	0.514
Cadmium	2.0	39	0.454	NA	< 0.218	< 0.188	< 0.157	**18.2**	< 0.201	< 0.198	**61.4**	**1.56**
Chromium	100	1200	43.9	NA	37	14.5	4.56	**76.7**	20	5.75	**203**	32.7
Selenium	2.0	36	0.957	NA	NA	< 0.751	< 0.627	0.888	< 0.804	< 0.794	0.752	< 0.674
Silver	2.0	10	--	NA	NA	< 0.188	< 0.157	0.355	< 0.201	< 0.198	1.39	< 0.168
Thallium	2.0	10	--	NA	NA	< 0.188	< 0.157	0.282	0.253	< 0.198	< 0.185	0.194
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	--	< 0.018	NA	< 0.019	< 0.017	< 0.94	< 0.019	< 0.018	**< 1.9**	**< 1.9**
PCB-1248	1.55	1.55	--	< 0.018	NA	< 0.019	< 0.017	< 0.94	< 0.019	< 0.018	**22**	**< 1.9**
PCB-1254	1.55	1.55	--	< 0.018	NA	< 0.019	< 0.017	**3.6**	< 0.019	< 0.018	**20**	**15**
PCB-1260	1.55	1.55	--	< 0.018	NA	< 0.019	< 0.017	1.5	< 0.019	< 0.018	**< 1.9**	**< 1.9**
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	--	NA	NA	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037
2-Methylnaphthalene	1.0	2.11	--	NA	NA	< 0.019	< 0.017	0.27	< 0.019	< 0.018	< 0.96	0.04
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	--	NA	NA	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037
4-Chloroaniline	10	10	--	NA	NA	< 0.075	< 0.068	< 0.37	< 0.076	< 0.069	< 3.8	< 0.074
Acenaphthene	300	300	--	NA	NA	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	< 0.019
Acenaphthylene	130	130	--	NA	NA	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	< 0.019
Acetophenone	400	400	--	NA	NA	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037
Anthracene	500	1000	--	NA	NA	< 0.019	< 0.017	0.2	< 0.019	< 0.018	< 0.96	0.026
Benzo(a)anthracene	5.0	5.0	--	NA	NA	< 0.019	< 0.017	0.46	< 0.019	< 0.018	1.2	0.088
Benzo(a)pyrene	1.64	1.64	--	NA	NA	< 0.019	< 0.017	0.53	< 0.019	< 0.018	1.4	0.11
Benzo(b)fluoranthene	5.0	5.0	--	NA	NA	< 0.019	< 0.017	0.61	< 0.019	< 0.018	2.2	0.16
Benzo(g,h,i)perylene	500	500	--	NA	NA	< 0.019	< 0.017	0.4	< 0.019	< 0.018	1.6	0.12
Benzo(k)fluoranthene	13.71	46.06	--	NA	NA	< 0.019	< 0.017	0.32	< 0.019	< 0.018	< 0.96	0.065
bis(2-Ethylhexyl)phthalate	50	50	--	NA	NA	< 0.19	< 0.17	2.2	< 0.19	< 0.18	< 9.6	0.23
Butyl benzyl phthalate	50	50	--	NA	NA	< 0.19	< 0.17	< 0.93	< 0.19	< 0.17	< 9.4	< 0.18
Chrysene	42	140	--	NA	NA	< 0.019	< 0.017	0.59	< 0.019	< 0.018	1.3	0.098
Dibenzo(a,h)anthracene	2.05	5.0	--	NA	NA	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	0.031
Diethyl phthalate	500	500	--	NA	NA	< 0.19	< 0.17	< 0.93	< 0.19	< 0.17	< 9.4	< 0.18
Dimethyl phthalate	40000	40000	--	NA	NA	< 0.19	< 0.17	< 0.93	< 0.19	< 0.17	< 9.4	< 0.18

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	DT-11B DT-11B-2-4-062216 2-4 6/22/2016 Sample	DT-12B DT-12B-2-4-062216 2-4 6/22/2016 Sample	MW-01 MW-1-6-8-022516 6-8 2/25/2016 Sample	MW-01 MW-1-12-14-022516 12-14 2/25/2016 Sample	MW-02 MW-2-2-4-022516 2-4 2/25/2016 Sample	MW-02 MW-2-6-8-022516 6-8 2/25/2016 Sample	MW-02 MW-2-12-14-022516 12-14 2/25/2016 Sample	MW-03 MW-3-2-4-022416 2-4 2/24/2016 Sample	MW-03 MW-3-6-8-022416 6-8 2/24/2016 Sample
Fluoranthene	500	500	--	NA	NA	< 0.019	< 0.017	0.82	< 0.019	< 0.018	2.2	0.15
Fluorene	360	360	--	NA	NA	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	< 0.019
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	NA	NA	< 0.019	< 0.017	0.3	< 0.019	< 0.018	1.8	0.097
Naphthalene	100	100	--	NA	NA	< 0.019	< 0.017	0.23	< 0.019	< 0.018	< 0.96	0.039
Phenanthrene	110	110	--	NA	NA	< 0.019	< 0.017	0.74	< 0.019	< 0.018	1.6	0.11
Phenol	400	400	--	NA	NA	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037
Pyrene	500	500	--	NA	NA	< 0.019	< 0.017	0.97	< 0.019	< 0.018	2.4	0.13
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
1,1-Dichloroethane	400	400	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
2-Butanone (Methyl ethyl ketone)	200	200	--	NA	NA	< 0.011	< 0.01	< 0.012	< 0.01	< 0.011	0.016	< 0.5
Acetone	400	400	--	NA	NA	< 0.021	< 0.021	0.062	< 0.02	< 0.022	0.14	< 1.0
Benzene	0.5	0.50	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Chloroethane	1.71	8.37	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
cis-1,2-Dichloroethene	7.0	7.0	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Cyclohexane	20	20	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Ethylbenzene	70	70	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Methylcyclohexane	0.10	0.10	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	**< 0.25**
Methylene chloride (Dichloromethane)	0.50	0.50	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Styrene	14	14	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Tetrachloroethene (PCE)	0.50	0.50	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Toluene	100	100	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Trichloroethene (TCE)	0.50	0.50	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Trichlorofluoromethane (Freon 11)	200	200	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25
Xylenes, Total	1000	1000	--	NA	NA	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA Regulated Compounds
Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	MW-03 MW-3-12-14-022416 12-14 2/24/2016 Sample	MW-04 MW-4-2-4-022316 2-4 2/23/2016 Sample	MW-04 MW-4-12-14-022316 12-14 2/23/2016 Sample	SBO-01 SBO-01-2-4-022616 2-4 2/26/2016 Sample	SBO-01 SBO-01-6-8-022616 6-8 2/26/2016 Sample	SBO-01 SBO-01-12-14-022616 12-14 2/26/2016 Sample	SBO-01 SBO-DUP-6-022616FD 12-14 2/26/2016 Duplicate	SBO-02 SBO-02-2-4-022616 2-4 2/26/2016 Sample
Explosives - SW846 8330B, mg/kg											
4-Nitrotoluene	1.12	1.12	--	< 0.12	0.19	< 0.12	< 0.14	< 0.14	< 0.13	< 0.12	< 0.13
Mercury, Total - SW846 7471B, mg/kg											
Mercury	0.50	17	0.167	**< 0.211**	**0.422**	**< 0.2**	**0.48**	**< 0.219**	**< 0.204**	**< 0.203**	**0.631**
Metals, Total - SW846 6010C, mg/kg											
Barium	1000	1000	--	35.8	217	16.2	213	94.4	17.9	19	232
Cobalt	20	25	10.1	3.76	8.9	1.68	**13.4**	6.09	1.77	1.65	**11.1**
Copper	100	1500	58.5	11.5	**227**	8.47	**572**	10.1	< 1.93	< 1.65	**387**
Lead	75	400	125	4.0	**531**	< 3.01	**648**	9.06	< 2.89	< 2.48	**609**
Manganese	25	160	530	**166**	**479**	**115**	**977**	**200**	**111**	**107**	**581**
Nickel	50	420	16.3	3.5	**153**	3.31	**137**	9.42	< 1.93	< 1.65	**828**
Vanadium	200	511.1	--	19.8	35.6	11	25.2	48	9.87	9.03	29.3
Zinc	291.9	2800	126	15.8	**1430**	9.22	**2160**	44.3	7.94	7.48	**1320**
Metals, Total - SW846 6020A, mg/kg											
Antimony	4.0	10	3.96	< 0.368	**9.68**	< 0.402	**5.41**	< 0.368	< 0.385	< 0.331	**32.4**
Arsenic	20	41	9.41	1.24	**10.5**	< 0.804	**17.5**	2.28	< 0.77	< 0.661	**195**
Beryllium	24.72	161.52	--	0.298	0.317	< 0.201	0.562	0.858	< 0.193	0.182	0.575
Cadmium	2.0	39	0.454	< 0.184	**3.24**	< 0.201	**12.2**	< 0.184	< 0.193	< 0.165	**4.39**
Chromium	100	1200	43.9	9.35	**72.6**	9.06	**176**	25.7	5.22	4.52	**150**
Selenium	2.0	36	0.957	< 0.735	< 0.865	< 0.804	< 0.897	< 0.735	< 0.77	< 0.661	< 0.885
Silver	2.0	10	--	< 0.184	< 0.216	< 0.201	0.449	< 0.184	< 0.193	< 0.165	0.727
Thallium	2.0	10	--	< 0.184	0.237	< 0.201	< 0.224	0.31	< 0.193	< 0.165	0.657
Polychlorinated Biphenyls - SW846 8082A, mg/kg											
PCB-1242	1.55	1.55	--	< 0.018	< 0.18	< 0.017	**< 1.9**	< 0.02	< 0.018	< 0.017	< 0.96
PCB-1248	1.55	1.55	--	< 0.018	1.4	< 0.017	**20**	0.12	< 0.018	< 0.017	**12**
PCB-1254	1.55	1.55	--	< 0.018	1.3	< 0.017	**5.5**	0.024	< 0.018	< 0.017	**9.6**
PCB-1260	1.55	1.55	--	< 0.018	0.28	< 0.017	**< 1.9**	< 0.02	< 0.018	< 0.017	< 0.96
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg											
2,4-Dimethylphenol	70	70	--	< 0.036	< 0.18	< 0.034	< 0.19	< 0.038	< 0.035	< 0.034	< 0.38
2-Methylnaphthalene	1.0	2.11	--	< 0.018	0.35	< 0.017	0.83	< 0.02	< 0.018	< 0.018	0.3
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	--	< 0.036	< 0.18	< 0.034	< 0.19	< 0.038	< 0.035	< 0.034	< 0.38
4-Chloroaniline	10	10	--	< 0.071	< 0.36	< 0.068	0.43	< 0.077	< 0.07	< 0.069	< 0.75
Acenaphthene	300	300	--	< 0.018	< 0.092	< 0.017	0.13	< 0.02	< 0.018	< 0.018	< 0.19
Acenaphthylene	130	130	--	< 0.018	< 0.092	< 0.017	< 0.098	< 0.02	< 0.018	< 0.018	< 0.19
Acetophenone	400	400	--	< 0.036	0.57	< 0.034	< 0.19	< 0.038	< 0.035	< 0.034	< 0.38
Anthracene	500	1000	--	< 0.018	0.17	< 0.017	0.21	< 0.02	< 0.018	< 0.018	0.52
Benzo(a)anthracene	5.0	5.0	--	< 0.018	0.31	< 0.017	1.0	< 0.02	< 0.018	< 0.018	1.8
Benzo(a)pyrene	1.64	1.64	--	< 0.018	0.44	< 0.017	**2.0**	< 0.02	< 0.018	< 0.018	**1.7**
Benzo(b)fluoranthene	5.0	5.0	--	< 0.018	< 0.092	< 0.017	2.5	< 0.02	< 0.018	< 0.018	2.5
Benzo(g,h,i)perylene	500	500	--	< 0.018	0.52	< 0.017	2.6	< 0.02	< 0.018	< 0.018	1.3
Benzo(k)fluoranthene	13.71	46.06	--	< 0.018	0.81	< 0.017	1.1	< 0.02	< 0.018	< 0.018	1.1
bis(2-Ethylhexyl)phthalate	50	50	--	< 0.18	4.5	< 0.17	1.2	< 0.2	< 0.18	< 0.18	**73**
Butyl benzyl phthalate	50	50	--	< 0.18	2.6	< 0.17	7.9	< 0.19	< 0.17	< 0.17	< 1.9
Chrysene	42	140	--	< 0.018	0.4	< 0.017	1.4	< 0.02	< 0.018	< 0.018	2.0
Dibenzo(a,h)anthracene	2.05	5.0	--	< 0.018	< 0.092	< 0.017	0.58	< 0.02	< 0.018	< 0.018	0.36
Diethyl phthalate	500	500	--	< 0.18	1.1	< 0.17	< 0.96	< 0.19	< 0.17	< 0.17	< 1.9
Dimethyl phthalate	40000	40000	--	< 0.18	< 0.9	< 0.17	< 0.96	< 0.19	< 0.17	< 0.17	< 1.9

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	MW-03 MW-3-12-14-022416 12-14 2/24/2016 Sample	MW-04 MW-4-2-4-022316 2-4 2/23/2016 Sample	MW-04 MW-4-12-14-022316 12-14 2/23/2016 Sample	SBO-01 SBO-01-2-4-022616 2-4 2/26/2016 Sample	SBO-01 SBO-01-6-8-022616 6-8 2/26/2016 Sample	SBO-01 SBO-01-12-14-022616 12-14 2/26/2016 Sample	SBO-01 SBO-DUP-6-022616FD 12-14 2/26/2016 Duplicate	SBO-02 SBO-02-2-4-022616 2-4 2/26/2016 Sample
Fluoranthene	500	500	--	< 0.018	0.55	< 0.017	1.3	< 0.02	< 0.018	< 0.018	3.5
Fluorene	360	360	--	< 0.018	< 0.092	< 0.017	< 0.098	< 0.02	< 0.018	< 0.018	< 0.19
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	< 0.018	0.38	< 0.017	2.1	< 0.02	< 0.018	< 0.018	1.2
Naphthalene	100	100	--	< 0.018	0.31	< 0.017	0.61	< 0.02	< 0.018	< 0.018	0.22
Phenanthrene	110	110	--	< 0.018	0.45	< 0.017	0.94	< 0.02	< 0.018	< 0.018	1.7
Phenol	400	400	--	< 0.036	0.92	< 0.034	< 0.19	< 0.038	< 0.035	< 0.034	0.89
Pyrene	500	500	--	< 0.018	0.68	< 0.017	1.6	< 0.02	< 0.018	< 0.018	3.0
Volatile Organic Compounds - SW846 8260C, mg/kg											
1,1,1-Trichloroethane	20	20	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
1,1-Dichloroethane	400	400	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
2-Butanone (Methyl ethyl ketone)	200	200	--	< 0.011	0.018	< 0.011	< 0.8	< 0.009	< 0.01	< 0.012	< 0.7
Acetone	400	400	--	< 0.022	0.15	< 0.021	< 1.6	< 0.018	< 0.02	< 0.024	< 1.4
Benzene	0.5	0.50	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
Chloroethane	1.71	8.37	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.005	0.005	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
Cyclohexane	20	20	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	0.37
Ethylbenzene	70	70	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
Methylcyclohexane	0.10	0.10	--	< 0.005	< 0.004	< 0.005	**1.4**	< 0.005	< 0.005	< 0.006	**1.0**
Methylene chloride (Dichloromethane)	0.50	0.50	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
Styrene	14	14	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
Tetrachloroethene (PCE)	0.50	0.50	--	< 0.005	< 0.004	< 0.005	**2.2**	< 0.005	< 0.005	< 0.006	< 0.35
Toluene	100	100	--	< 0.005	< 0.004	< 0.005	3.3	< 0.005	< 0.005	< 0.006	0.97
Trichloroethene (TCE)	0.50	0.50	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.005	< 0.004	< 0.005	< 0.4	< 0.005	< 0.005	< 0.006	< 0.35
Xylenes, Total	1000	1000	--	< 0.005	< 0.004	< 0.005	3.0	< 0.005	< 0.005	< 0.006	1.1

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA Regulated Compounds
Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-02 SBO-02-6-8-022616 6-8 2/26/2016 Sample	SBO-02 SBO-02-12-14-022616 12-14 2/26/2016 Sample	SBO-03 SBO-03-2-4-022616 2-4 2/29/2016 Sample	SBO-03 SBO-03-6-8-022616 6-8 2/29/2016 Sample	SBO-03 SBO-DUP-7-022616FD 6-8 2/26/2016 Duplicate	SBO-03 SBO-03-12-14-022616 12-14 2/29/2016 Sample	SBO-04 SBO-04-6-8-022516 6-8 2/25/2016 Sample	SBO-04 SBO-04-12-14-022516 12-14 2/25/2016 Sample
Explosives - SW846 8330B, mg/kg											
4-Nitrotoluene	1.12	1.12	--	< 0.13	< 0.12	< 0.15	< 0.14	< 0.13	< 0.12	< 0.13	< 0.12
Mercury, Total - SW846 7471B, mg/kg											
Mercury	0.50	17	0.167	**< 0.225**	**< 0.196**	**3.69**	**< 0.224**	**< 0.226**	**< 0.192**	**< 0.225**	**< 0.202**
Metals, Total - SW846 6010C, mg/kg											
Barium	1000	1000	--	86.4	24.7	233	85.5	71.6	14.5	33.3	15.7
Cobalt	20	25	10.1	8.32	2.23	**239**	7.85	6.48	1.28	3.6	1.46
Copper	100	1500	58.5	31.1	9.36	**1950**	32.1	28.9	56.4 JL	13.8	5.07
Lead	75	400	125	8.15	< 3.12	**909**	8.8	7.7	< 3.0	4.27	< 3.16
Manganese	25	160	530	**248**	**130**	**1030**	**231**	**204**	**125**	**138**	**120**
Nickel	50	420	16.3	9.83	2.18	**15100**	11.7	8.91	< 2.0	4.09	< 2.11
Vanadium	200	511.1	--	49.6	13.9	56.9	51.5	46.5	8.38	21	8.09
Zinc	291.9	2800	126	41.6	10.1	**3070**	45.2	39.6	8.2	17.4	6.49
Metals, Total - SW846 6020A, mg/kg											
Antimony	4.0	10	3.96	< 0.447	< 0.416	**11.7**	< 0.454	< 0.46	< 0.401	< 0.45	< 0.422
Arsenic	20	41	9.41	7.21	< 0.831	**18.3**	1.57	1.34	< 0.801	< 0.899	< 0.844
Beryllium	24.72	161.52	--	0.865	0.226	0.58	0.721	0.634	< 0.2	0.402	< 0.211
Cadmium	2.0	39	0.454	< 0.223	< 0.208	**8.08**	< 0.227	< 0.2	< 0.2	< 0.225	< 0.211
Chromium	100	1200	43.9	22.6	6.01	**11100**	23.3	22	5.29	10.1	4.79
Selenium	2.0	36	0.957	< 0.893	< 0.831	**< 0.964**	< 0.907	< 0.92	< 0.801	< 0.899	< 0.844
Silver	2.0	10	--	< 0.223	< 0.208	1.55	< 0.227	< 0.23	< 0.2	< 0.225	< 0.211
Thallium	2.0	10	--	0.283	< 0.208	< 0.241	0.325	0.248	< 0.2	< 0.225	< 0.211
Polychlorinated Biphenyls - SW846 8082A, mg/kg											
PCB-1242	1.55	1.55	--	< 0.019	< 0.018	< 1.1	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
PCB-1248	1.55	1.55	--	< 0.019	< 0.018	**8.9**	< 0.019	< 0.019	0.018	< 0.019	< 0.018
PCB-1254	1.55	1.55	--	< 0.019	< 0.018	**3.8**	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
PCB-1260	1.55	1.55	--	< 0.019	< 0.018	< 1.1	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg											
2,4-Dimethylphenol	70	70	--	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034	< 0.037	< 0.035
2-Methylnaphthalene	1.0	2.11	--	< 0.019	< 0.018	0.27	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	--	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034	< 0.037	< 0.035
4-Chloroaniline	10	10	--	< 0.075	< 0.069	< 0.83	< 0.076	< 0.076	< 0.067	< 0.075	< 0.071
Acenaphthene	300	300	--	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Acenaphthylene	130	130	--	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Acetophenone	400	400	--	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034	< 0.037	< 0.035
Anthracene	500	1000	--	< 0.019	< 0.018	0.33	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Benzo(a)anthracene	5.0	5.0	--	< 0.019	< 0.018	0.83	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Benzo(a)pyrene	1.64	1.64	--	< 0.019	< 0.018	0.84	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Benzo(b)fluoranthene	5.0	5.0	--	< 0.019	< 0.018	1.3	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Benzo(g,h,i)perylene	500	500	--	< 0.019	< 0.018	0.7	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Benzo(k)fluoranthene	13.71	46.06	--	< 0.019	< 0.018	0.54	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
bis(2-Ethylhexyl)phthalate	50	50	--	< 0.19	< 0.18	< 2.1	< 0.19	< 0.19	< 0.17	< 0.19	< 0.18
Butyl benzyl phthalate	50	50	--	< 0.19	< 0.17	< 2.1	< 0.19	< 0.19	< 0.17	< 0.19	< 0.18
Chrysene	42	140	--	< 0.019	< 0.018	0.84	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Dibenzo(a,h)anthracene	2.05	5.0	--	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Diethyl phthalate	500	500	--	< 0.19	< 0.17	< 2.1	< 0.19	< 0.19	< 0.17	< 0.19	< 0.18
Dimethyl phthalate	40000	40000	--	< 0.19	< 0.17	< 2.1	< 0.19	< 0.19	< 0.17	< 0.19	< 0.18

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-02 SBO-02-6-8-022616 6-8 2/26/2016 Sample	SBO-02 SBO-02-12-14-022616 12-14 2/26/2016 Sample	SBO-03 SBO-03-2-4-022616 2-4 2/29/2016 Sample	SBO-03 SBO-03-6-8-022616 6-8 2/29/2016 Sample	SBO-03 SBO-DUP-7-022616FD 6-8 2/26/2016 Duplicate	SBO-03 SBO-03-12-14-022616 12-14 2/29/2016 Sample	SBO-04 SBO-04-6-8-022516 6-8 2/25/2016 Sample	SBO-04 SBO-04-12-14-022516 12-14 2/25/2016 Sample
Fluoranthene	500	500	--	< 0.019	< 0.018	1.6	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Fluorene	360	360	--	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	< 0.019	< 0.018	0.6	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Naphthalene	100	100	--	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Phenanthrene	110	110	--	< 0.019	< 0.018	0.81	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Phenol	400	400	--	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034	< 0.037	< 0.035
Pyrene	500	500	--	< 0.019	< 0.018	1.3	< 0.019	< 0.019	< 0.017	< 0.019	< 0.018
Volatile Organic Compounds - SW846 8260C, mg/kg											
1,1,1-Trichloroethane	20	20	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
1,1-Dichloroethane	400	400	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
2-Butanone (Methyl ethyl ketone)	200	200	--	< 0.009	< 0.01	< 0.012	< 0.01	< 0.009	< 0.013	< 0.01	< 0.012
Acetone	400	400	--	< 0.017	< 0.02	0.056	0.031	0.028	< 0.027	0.02	< 0.024
Benzene	0.5	0.50	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Chloroethane	1.71	8.37	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Cyclohexane	20	20	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Ethylbenzene	70	70	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Methylcyclohexane	0.10	0.10	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Methylene chloride (Dichloromethane)	0.50	0.50	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Styrene	14	14	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Tetrachloroethene (PCE)	0.50	0.50	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Toluene	100	100	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Trichloroethene (TCE)	0.50	0.50	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006
Xylenes, Total	1000	1000	--	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007	< 0.005	< 0.006

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA Regulated Compounds
Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-05 SBO-05-6-8-022616 6-8 2/29/2016 Sample	SBO-05 SBO-05-12-14-022616 12-14 2/29/2016 Sample	SBO-06 SBO-06-2-4-022616 2-4 2/29/2016 Sample	SBO-06 SBO-06-6-8-022616 6-8 2/29/2016 Sample	SBO-06 SBO-06-12-14-022616 12-14 2/29/2016 Sample	SBO-07 SBO-07-6-8-022316 6-8 2/24/2016 Sample	SBO-07 SBO-07-12-14-022316 12-14 2/24/2016 Sample	SBO-08 SBO-08-6-8-022316 6-8 2/24/2016 Sample	SBO-08 SBO-08-12-14-022316 12-14 2/24/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	--	< 0.13	< 0.12	< 0.14	< 0.12	< 0.12	< 0.15	< 0.13	< 0.14	< 0.12
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.50	17	0.167	**< 0.203**	**< 0.208**	**1.78**	**< 0.203**	**< 0.195**	**< 0.239**	**< 0.209**	**< 0.231**	**< 0.205**
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	--	52.7	29.1	293	45	18.9 J	147	27.6	128	19.8
Cobalt	20	25	10.1	4.16	1.66	**16.5**	4.14	1.72	**13.2**	3.67	7.77	1.8
Copper	100	1500	58.5	3.18	9.46	**786**	3.64	3.53	**60.3**	12.4	49.2	7.95
Lead	75	400	125	4.2	19.1	**926**	4.58	< 2.51	18.6	< 3.11	14.3	< 3.04
Manganese	25	160	530	**213**	**115**	**1100**	**164**	**108**	**400**	**214**	**228**	**126**
Nickel	50	420	16.3	4.62	3.86	**163**	4.7	1.84	**18.1**	3.22	15.1	2.04
Vanadium	200	511.1	--	23.6	9.36	41.1	25	9.79	87	18.0	78.2	12.2
Zinc	291.9	2800	126	21	85.9	**2450**	22	10.9	82.7	13.3	64.8	7.98
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	10	3.96	< 0.368	0.308	**11.6**	< 0.342	< 0.335 UJ	< 0.478	< 0.414	< 0.479	< 0.405
Arsenic	20	41	9.41	1.44	1.22	**18.4**	1.3	0.677 J	4.15	1.3	3.89	1.01
Beryllium	24.72	161.52	--	0.486	0.171	0.37	0.48	0.176	1.3	0.309	1.24	0.218
Cadmium	2.0	39	0.454	< 0.184	0.252	**7.06**	< 0.171	< 0.167	< 0.239	< 0.207	< 0.239	< 0.203
Chromium	100	1200	43.9	10.6	10.5	**284**	11.8	5.76 J	34.7	8.48	34.4	6.27
Selenium	2.0	36	0.957	< 0.737	< 0.567	**1.64**	< 0.685	< 0.67	< 0.956	< 0.829	**< 0.958**	< 0.811
Silver	2.0	10	--	< 0.184	< 0.142	0.941	< 0.171	< 0.167	< 0.239	< 0.207	< 0.239	< 0.203
Thallium	2.0	10	--	< 0.184	< 0.142	< 0.197	< 0.171	< 0.167	0.545	< 0.207	0.505	< 0.203
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	--	< 0.018	< 0.018	< 0.99	< 0.018	< 0.017	< 0.021	< 0.018	< 0.021	< 0.018
PCB-1248	1.55	1.55	--	< 0.018	0.027	**23**	< 0.018	< 0.017	0.049	< 0.018	< 0.021	< 0.018
PCB-1254	1.55	1.55	--	< 0.018	0.022	**11**	< 0.018	< 0.017	0.022	< 0.018	0.063	< 0.018
PCB-1260	1.55	1.55	--	< 0.018	< 0.018	< 0.99	< 0.018	< 0.017	< 0.021	< 0.018	< 0.021	< 0.018
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	--	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	< 0.04	< 0.036	< 0.04	< 0.034
2-Methylnaphthalene	1.0	2.11	--	< 0.018	< 0.018	**1.7**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	--	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	< 0.04	< 0.036	< 0.04	< 0.034
4-Chloroaniline	10	10	--	< 0.071	< 0.07	< 1.9	< 0.07	< 0.067 UJ	< 0.081	< 0.071	< 0.08	< 0.069
Acenaphthene	300	300	--	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Acenaphthylene	130	130	--	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Acetophenone	400	400	--	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	< 0.04	< 0.036	< 0.04	< 0.034
Anthracene	500	1000	--	< 0.018	< 0.018	0.55	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Benzo(a)anthracene	5.0	5.0	--	< 0.018	< 0.018	1.0	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Benzo(a)pyrene	1.64	1.64	--	< 0.018	< 0.018	1.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Benzo(b)fluoranthene	5.0	5.0	--	< 0.018	< 0.018	1.8	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Benzo(g,h,i)perylene	500	500	--	< 0.018	< 0.018	1.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Benzo(k)fluoranthene	13.71	46.06	--	< 0.018	< 0.018	1.1	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
bis(2-Ethylhexyl)phthalate	50	50	--	< 0.18	< 0.18	27	< 0.18	< 0.17	< 0.21	< 0.18	< 0.2	< 0.18
Butyl benzyl phthalate	50	50	--	< 0.18	< 0.17	< 4.9	< 0.18	< 0.17	< 0.2	< 0.18	< 0.2	< 0.17
Chrysene	42	140	--	< 0.018	< 0.018	1.6	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Dibenzo(a,h)anthracene	2.05	5.0	--	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Diethyl phthalate	500	500	--	< 0.18	< 0.17	< 4.9	< 0.18	< 0.17	< 0.2	< 0.18	< 0.2	< 0.17
Dimethyl phthalate	40000	40000	--	< 0.18	< 0.17	< 4.9	< 0.18	< 0.17	< 0.2	< 0.18	< 0.2	< 0.17

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-05 SBO-05-6-8-022616 6-8 2/29/2016 Sample	SBO-05 SBO-05-12-14-022616 12-14 2/29/2016 Sample	SBO-06 SBO-06-2-4-022616 2-4 2/29/2016 Sample	SBO-06 SBO-06-6-8-022616 6-8 2/29/2016 Sample	SBO-06 SBO-06-12-14-022616 12-14 2/29/2016 Sample	SBO-07 SBO-07-6-8-022316 6-8 2/24/2016 Sample	SBO-07 SBO-07-12-14-022316 12-14 2/24/2016 Sample	SBO-08 SBO-08-6-8-022316 6-8 2/24/2016 Sample	SBO-08 SBO-08-12-14-022316 12-14 2/24/2016 Sample
Fluoranthene	500	500	--	< 0.018	< 0.018	2.3	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Fluorene	360	360	--	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	< 0.018	< 0.018	1.4	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Naphthalene	100	100	--	< 0.018	< 0.018	1.3	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Phenanthrene	110	110	--	< 0.018	< 0.018	1.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Phenol	400	400	--	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	0.7	< 0.036	< 0.04	< 0.034
Pyrene	500	500	--	< 0.018	< 0.018	2.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02	< 0.018
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	400	400	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	--	< 0.01	< 0.011	< 0.74	< 0.01	< 0.011	< 0.01	< 0.011	< 0.009	< 0.01
Acetone	400	400	--	0.021 JH	< 0.023	< 1.5	0.025	< 0.021	0.037	< 0.022	< 0.018	0.022
Benzene	0.5	0.50	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	1.71	8.37	--	< 0.005	< 0.006	0.64	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cyclohexane	20	20	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	70	70	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Methylcyclohexane	0.10	0.10	--	< 0.005	< 0.006	**< 0.37**	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Methylene chloride (Dichloromethane)	0.50	0.50	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Styrene	14	14	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene (PCE)	0.50	0.50	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	100	100	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethene (TCE)	0.50	0.50	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes, Total	1000	1000	--	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA Regulated Compounds
Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-09 SBO-09-2-4-022616 2-4 2/26/2016 Sample	SBO-09 SBO-DUP-5-022616FD 2-4 2/26/2016 Duplicate	SBO-09 SBO-09-6-8-022616 6-8 2/26/2016 Sample	SBO-09 SBO-09-12-14-022616 12-14 2/26/2016 Sample	SBO-10 SBO-10-6-8-022316 6-8 2/23/2016 Sample	SBO-10 SBO-10-12-14-022316 12-14 2/23/2016 Sample
Explosives - SW846 8330B, mg/kg									
4-Nitrotoluene	1.12	1.12	--	< 0.13	< 0.13	< 0.13	< 0.12	< 0.14	< 0.12
Mercury, Total - SW846 7471B, mg/kg									
Mercury	0.50	17	0.167	**0.473**	**0.498**	**< 0.219**	**< 0.193**	**< 0.228**	**< 0.201**
Metals, Total - SW846 6010C, mg/kg									
Barium	1000	1000	--	285	244	70.8	21.2	138	19.4
Cobalt	20	25	10.1	**11.8**	**10.5**	7.54	1.88	8.2	1.74
Copper	100	1500	58.5	**480 J**	**1630 J**	28.5	7.1	45.1	7.7
Lead	75	400	125	**627**	**662**	7.08	< 2.94	16.4	< 3.01
Manganese	25	160	530	**951**	**728**	**181**	**110**	**234**	**89.2**
Nickel	50	420	16.3	**137**	**93.5**	8.37	2.15	15	2.08
Vanadium	200	511.1	--	31.6	40	46	10.8	74.2	10.3
Zinc	291.9	2800	126	**2510**	**2930**	36.9	10.5	67.3	28.9
Metals, Total - SW846 6020A, mg/kg									
Antimony	4.0	10	3.96	**10**	**7.54**	< 0.443	< 0.392	< 0.459	< 0.401
Arsenic	20	41	9.41	**26.1**	**19.5**	1.09	< 0.785	3.09	< 0.803
Beryllium	24.72	161.52	--	1.25	0.375	0.582	< 0.196	1.09	< 0.201
Cadmium	2.0	39	0.454	**6.22**	**5.34**	< 0.221	< 0.196	< 0.229	< 0.201
Chromium	100	1200	43.9	**113**	**187**	20.9	5.49	37.5	6.21
Selenium	2.0	36	0.957	< 0.894	< 0.717	< 0.886	< 0.785	< 0.917	< 0.803
Silver	2.0	10	--	0.356	0.332	< 0.221	< 0.196	< 0.229	< 0.201
Thallium	2.0	10	--	< 0.223	0.202	0.264	< 0.196	0.432	< 0.201
Polychlorinated Biphenyls - SW846 8082A, mg/kg									
PCB-1242	1.55	1.55	--	< 0.38	**< 1.9**	< 0.019	< 0.017	< 0.02	< 0.017
PCB-1248	1.55	1.55	--	**4.4 J**	**8.0 J**	< 0.019	< 0.017	0.032	< 0.017
PCB-1254	1.55	1.55	--	**3.9 J**	**7.0 J**	< 0.019	< 0.017	< 0.02	< 0.017
PCB-1260	1.55	1.55	--	< 0.38	**< 1.9**	< 0.019	< 0.017	< 0.02	< 0.017
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg									
2,4-Dimethylphenol	70	70	--	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034
2-Methylnaphthalene	1.0	2.11	--	0.17	0.13	< 0.019	< 0.017	< 0.02	< 0.017
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	--	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034
4-Chloroaniline	10	10	--	< 0.37	< 0.37	< 0.074	< 0.068	< 0.077	< 0.068
Acenaphthene	300	300	--	0.43	0.25	< 0.019	< 0.017	< 0.02	< 0.017
Acenaphthylene	130	130	--	< 0.095	< 0.094	< 0.019	< 0.017	< 0.02	< 0.017
Acetophenone	400	400	--	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034
Anthracene	500	1000	--	0.61	0.42	< 0.019	< 0.017	< 0.02	< 0.017
Benzo(a)anthracene	5.0	5.0	--	1.1	0.7	< 0.019	< 0.017	0.02	< 0.017
Benzo(a)pyrene	1.64	1.64	--	1.2	0.84	< 0.019	< 0.017	0.027	< 0.017
Benzo(b)fluoranthene	5.0	5.0	--	1.8	1.1	< 0.019	< 0.017	0.035	< 0.017
Benzo(g,h,i)perylene	500	500	--	1.1	0.96	< 0.019	< 0.017	0.036	< 0.017
Benzo(k)fluoranthene	13.71	46.06	--	0.75	0.6	< 0.019	< 0.017	< 0.02	< 0.017
bis(2-Ethylhexyl)phthalate	50	50	--	1.1	2.6	< 0.19	< 0.17	< 0.2	< 0.17
Butyl benzyl phthalate	50	50	--	1.5	3.3	< 0.18	< 0.17	< 0.19	< 0.17
Chrysene	42	140	--	1.3	0.96	< 0.019	< 0.017	< 0.02	< 0.017
Dibenzo(a,h)anthracene	2.05	5.0	--	0.29	0.25	< 0.019	< 0.017	< 0.02	< 0.017
Diethyl phthalate	500	500	--	< 0.93	< 0.92	< 0.18	< 0.17	< 0.19	< 0.17
Dimethyl phthalate	40000	40000	--	< 0.93	< 0.92	< 0.18	< 0.17	< 0.19	< 0.17

Table 3: Summary of Subsurface Soil Analytical Results

Location ID: Sample ID: Sample Depth (ft.): Sample Date: Sample Type:	Selected Residential RRS[a]	Selected Non-Residential RRS[b]	Background Threshold Value[c]	SBO-09 SBO-09-2-4-022616 2-4 2/26/2016 Sample	SBO-09 SBO-DUP-5-022616FD 2-4 2/26/2016 Duplicate	SBO-09 SBO-09-6-8-022616 6-8 2/26/2016 Sample	SBO-09 SBO-09-12-14-022616 12-14 2/26/2016 Sample	SBO-10 SBO-10-6-8-022316 6-8 2/23/2016 Sample	SBO-10 SBO-10-12-14-022316 12-14 2/23/2016 Sample
Fluoranthene	500	500	--	1.9	1.3	< 0.019	< 0.017	0.029	< 0.017
Fluorene	360	360	--	0.36	0.22	< 0.019	< 0.017	< 0.02	< 0.017
Indeno(1,2,3-cd)pyrene	5.0	15.68	--	0.96	0.88	< 0.019	< 0.017	0.028	< 0.017
Naphthalene	100	100	--	0.36	0.22	< 0.019	< 0.017	< 0.02	< 0.017
Phenanthrene	110	110	--	2.2 J	1.3 J	< 0.019	< 0.017	0.027	< 0.017
Phenol	400	400	--	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034
Pyrene	500	500	--	2.2	1.6	< 0.019	< 0.017	0.03	< 0.017
Volatile Organic Compounds - SW846 8260C, mg/kg									
1,1,1-Trichloroethane	20	20	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
1,1-Dichloroethane	400	400	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	--	0.021	0.014	< 0.012	< 0.011	< 0.008	< 0.011
Acetone	400	400	--	0.11	0.071	< 0.024	< 0.023	< 0.016	< 0.022
Benzene	0.5	0.50	--	0.005	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Chloroethane	1.71	8.37	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
cis-1,2-Dichloroethene	7.0	7.0	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Cyclohexane	20	20	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Ethylbenzene	70	70	--	0.021	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Methylcyclohexane	0.10	0.10	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Methylene chloride (Dichloromethane)	0.50	0.50	--	< 0.004	< 0.004	< 0.006	0.008	< 0.004	< 0.005
Styrene	14	14	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Tetrachloroethene (PCE)	0.50	0.50	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Toluene	100	100	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Trichloroethene (TCE)	0.50	0.50	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	--	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005
Xylenes, Total	1000	1000	--	0.009	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[b] = Higher of Type 3 and Type 4 Non-Residential Risk Reduction Standards for Soil DAF = 1
[c] = Background Threshold Value
HSRA Regulated Compounds
Data Qualifiers:
J = Value listed is estimated based on associated QC data
JH = Value listed is estimated, possibly biased high
JL = Value listed is estimated, possibly biased low
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[a]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and NON-RESIDENTIAL RRS[b]
EXCEEDS SELECTED RESIDENTIAL RRS[a], NON-RESIDENTIAL RRS[b], and BTV[c]
EXCEEDS SELECTED RESIDENTIAL RRS[a] and BTV[c]
EXCEEDS BTV[c]
DETECTION LIMIT EXCEEDS SELECTED RRS AND/OR BTV VALUE

Table 4: Summary of Groundwater Analytical Results

Location ID: Sample ID: Sample Date: Sample Type:	Selected Groundwater RRS[a]	MW-01 MW-1-041116 4/11/2016 Sample	MW-02 MW-2-041116 4/11/2016 Sample	MW-02 DUP-1-041116FD 4/11/2016 Duplicate	MW-03 MW-3-041116 4/11/2016 Sample	MW-04 MW-4-041116 4/11/2016 Sample
Explosives - SW846 8330, mg/L						
4-Nitrotoluene	0.0002	NA	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Mercury, Dissolved - SW846 7470A, mg/L						
Mercury	0.002	NA	< 0.0002	NA	NA	NA
Mercury, Total - SW846 7470A, mg/L						
Mercury	0.002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Metals, Dissolved - SW846 6020A, mg/L						
Antimony	0.006	NA	< 0.002	NA	NA	NA
Arsenic	0.01	NA	< 0.004	NA	NA	NA
Barium	2.0	NA	0.133	NA	NA	NA
Beryllium	0.004	NA	< 0.001	NA	NA	NA
Cadmium	0.005	NA	< 0.001	NA	NA	NA
Chromium	0.10	NA	< 0.004	NA	NA	NA
Cobalt	0.01	NA	**0.0156**	NA	NA	NA
Copper	1.3	NA	< 0.004	NA	NA	NA
Lead	0.015	NA	< 0.002	NA	NA	NA
Manganese	0.002	NA	**2.01**	NA	NA	NA
Nickel	0.10	NA	0.0058	NA	NA	NA
Selenium	0.05	NA	< 0.004	NA	NA	NA
Silver	0.10	NA	< 0.001	NA	NA	NA
Thallium	0.002	NA	< 0.001	NA	NA	NA
Vanadium	0.20	NA	< 0.001	NA	NA	NA
Zinc	2.0	NA	0.155	NA	NA	NA
Metals, Total - SW846 6020A, mg/L						
Antimony	0.006	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Arsenic	0.01	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Barium	2.0	0.0821	0.129	0.115	0.0873	0.069
Beryllium	0.004	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Chromium	0.10	0.0065	< 0.004	< 0.004	< 0.004	< 0.004
Cobalt	0.01	0.0018	**0.0164**	**0.013**	< 0.001	0.0018
Copper	1.30	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Lead	0.015	0.0031	0.0034	< 0.002	< 0.002	< 0.002
Manganese	0.002	**0.187**	**1.98**	**1.59**	**0.0095**	**0.03**
Nickel	0.10	< 0.004	0.0062	0.0046	< 0.004	< 0.004
Selenium	0.05	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Silver	0.10	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Thallium	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	0.20	0.0083	0.0034	< 0.001	< 0.001	0.0039
Zinc	2.0	< 0.03	0.144	0.122	0.0589	0.0898
Polychlorinated Biphenyls - SW846 8082A, mg/L						
PCB-1242	0.001	< 0.0004	< 0.00043	< 0.00041	< 0.00041	< 0.00043
PCB-1248	0.001	< 0.0004	< 0.00043	< 0.00041	< 0.00041	< 0.00043
PCB-1254	0.001	< 0.0004	< 0.00043	< 0.00041	< 0.00041	< 0.00043
PCB-1260	0.001	< 0.0004	< 0.00043	< 0.00041	< 0.00041	< 0.00043
Semi-Volatile Organic Compounds - SW846 8270D, mg/L						
2,4-Dimethylphenol	0.70	< 0.001	< 0.001 UJ	< 0.001	< 0.001	< 0.001
4-Chloroaniline	0.10	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Acetophenone	4.0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
bis(2-Ethylhexyl)phthalate	0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Butyl benzyl phthalate	0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Diethyl phthalate	5.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dimethyl phthalate	400	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Phenol	4.0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Table 4: Summary of Groundwater Analytical Results

Location ID: Sample ID: Sample Date: Sample Type:	Selected Groundwater RRS[(a)]	MW-01 MW-1-041116 4/11/2016 Sample	MW-02 MW-2-041116 4/11/2016 Sample	MW-02 DUP-1-041116FD 4/11/2016 Duplicate	MW-03 MW-3-041116 4/11/2016 Sample	MW-04 MW-4-041116 4/11/2016 Sample
Semi-Volatile Organic Compounds - SW846 8270D-SIM, mg/L						
2-Methylnaphthalene	0.01	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Acenaphthene	2.0	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Acenaphthylene	0.01	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Anthracene	0.01	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Benzo(a)anthracene	0.0001	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Benzo(a)pyrene	0.0002	< 0.000052	< 0.000051 UJ	< 0.000053	< 0.000052	< 0.000051
Benzo(b)fluoranthene	0.0002	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Benzo(g,h,i)perylene	0.01	< 0.000052	< 0.000051 UJ	< 0.000053	< 0.000052	< 0.000051
Benzo(k)fluoranthene	0.0001	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Chrysene	0.01	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Dibenzo(a,h)anthracene	0.0003	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Fluoranthene	1.0	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Fluorene	1.0	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Indeno(1,2,3-cd)pyrene	0.0004	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Naphthalene	0.02	< 0.000062	< 0.000061	< 0.000063	< 0.000063	< 0.000061
Phenanthrene	0.01	< 0.000062	< 0.000061	< 0.000063	< 0.000063	< 0.000061
Pyrene	1.0	< 0.000052	< 0.000051	< 0.000053	< 0.000052	< 0.000051
Volatile Organic Compounds - SW846 8260C, mg/L						
1,1,1-Trichloroethane	0.20	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
1,1-Dichloroethane	4.0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
2-Butanone (Methyl ethyl ketone)	2.0	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acetone	4.0	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzene	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Chloroethane	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
cis-1,2-Dichloroethene	0.07	< 0.001	0.007 J	0.007	< 0.001	0.028
Cyclohexane	0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	0.70	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Methylcyclohexane	0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Methylene chloride (Dichloromethane)	0.005	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Styrene	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene (PCE)	0.005	**0.015**	0.004	0.004	**0.012**	0.004
Toluene	1.0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Trichloroethene (TCE)	0.005	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Trichlorofluoromethane (Freon 11)	2.0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes, Total	10	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Notes:
mg/L = milligrams per liter
RRS = Risk Reduction Standard; EPA Regional Screening Level Table (RSL), January 2015.
[(a)] = Higher of Type 1 and Type 3 Residential Risk Reduction Standards for Groundwater
HSRA Regulated Compounds shown

Data Qualifiers:
J = Value listed is estimated based on associated QC data
NA = Not Analyzed
UJ = Constituent was not detected, estimated based on associated QC data
< = Not Detected at or above the associated Reporting Limit (RL)
EXCEEDS SELECTED RESIDENTIAL RRS[(a)]

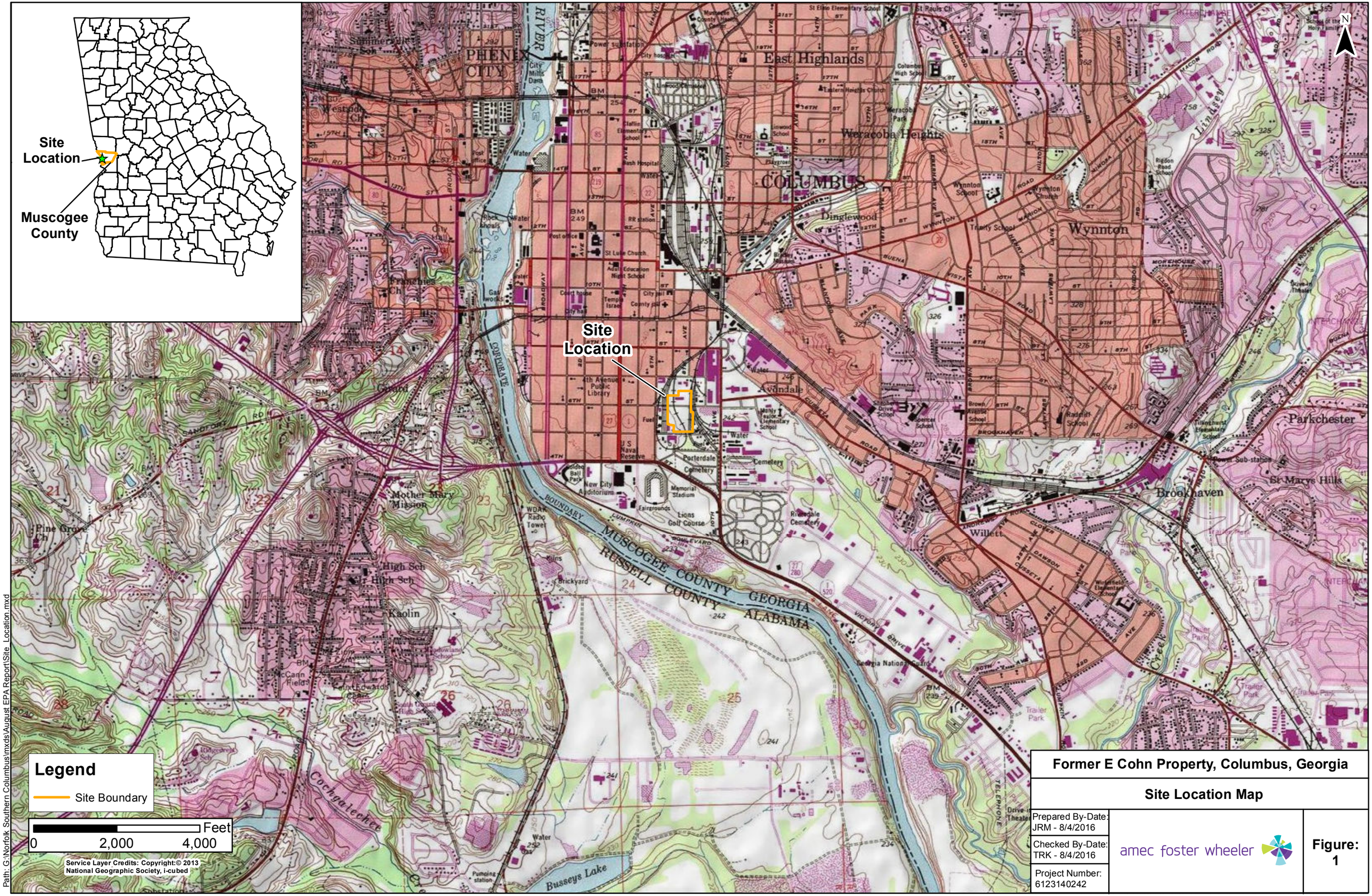
Table 5: Summary of Calculated Background Threshold Values for Soil

Variable	Outliers	Distribution	BTV	Basis
Antimony	7.87	Non-Parametric	3.96	Maximum Detection
Cadmium	9.07	Non-Parametric	0.454	Maximum Detection
Selenium	--	NA	<0.957	Maximum Detection Limit
Mercury	0.736, 0.701	Non-Parametric	0.167	Maximum Detection
Cobalt	18.1	Normal	10.1	95% UPL(t)
Copper	156	Normal	58.5	95% UPL(t)
Lead	293	Gamma	125	95% HW Approx Gamma UPL
Manganese	3980	Normal	530	95% UPL(t)
Nickel	--	Normal	16.3	95% UPL(t)
Zinc	387	Normal	126	95% UPL(t)
Arsenic	51.7	Gamma	9.41	95% HW Approx Gamma UPL
Chromium	--	Normal	43.9	95% UPL(t)

-- No Outliers Identified
NA Only 1 of 18 samples with a detection.
Non-Parametric statistics used for sample sets having > 50 percent non-detections.
Outliers identified using Q-Q graphs and Dixon's Outlier Statistical Test.
BTV - Background Threshold Value
UPL - Upper Prediction Limit
HW Approx Gamma - 95% Hawkins Wixley Approximate Gamma
ProUCL 5.1 used to identify outliers, estimate data distribution type, and calculate the Upper Prediction Limits (UPLs).

Prepared by: LMS 7/21/2016
Checked by: NTG 7/21/2016

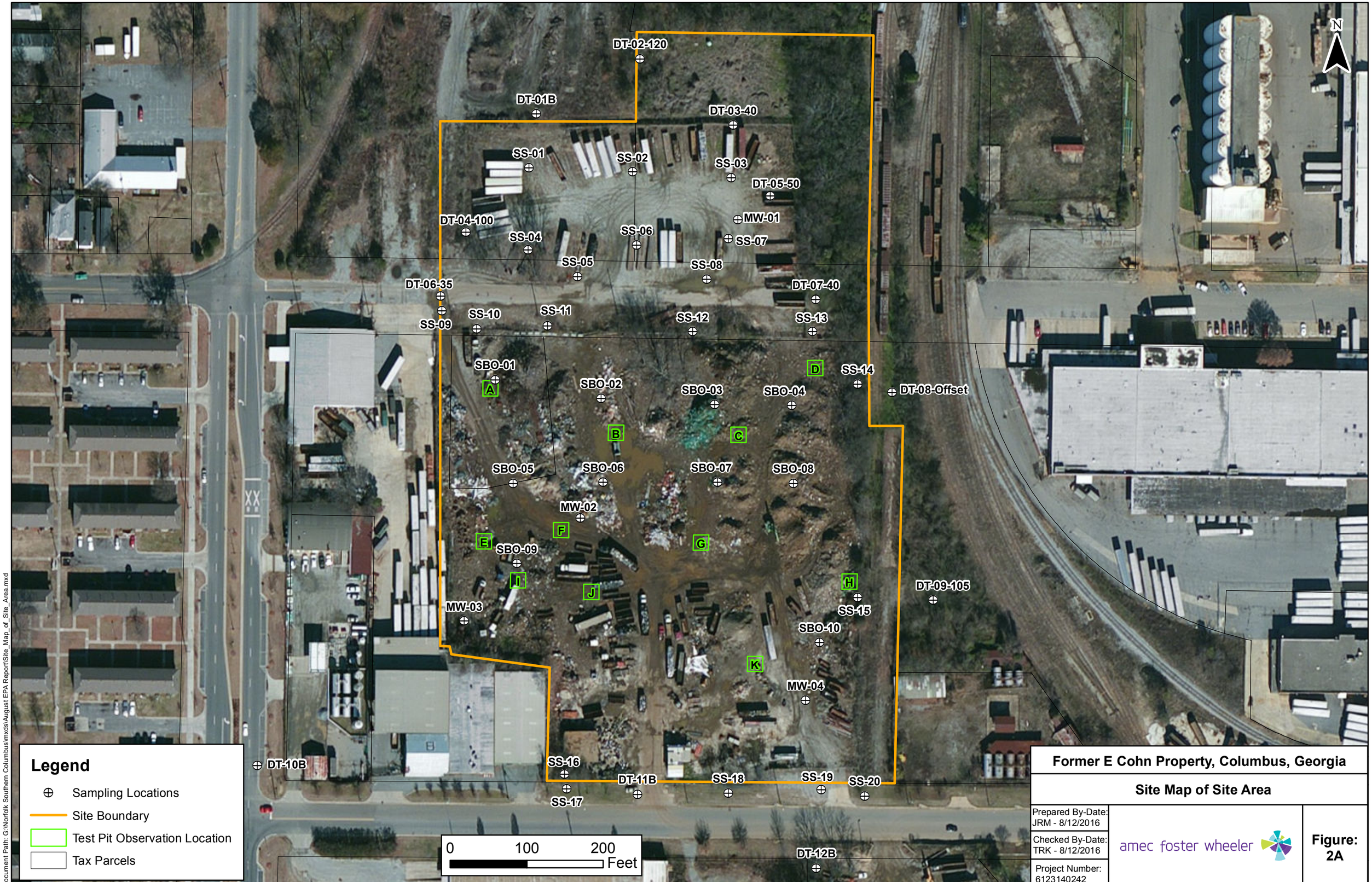
FIGURES



Former E Cohn Property, Columbus, Georgia

Site Location Map

Prepared By-Date: JRM - 8/4/2016	amec foster wheeler	Figure: 1
Checked By-Date: TRK - 8/4/2016		
Project Number: 6123140242		



Former E Cohn Property, Columbus, Georgia

Site Map of Site Area

Prepared By-Date: JRM - 8/12/2016

Checked By-Date: TRK - 8/12/2016

Project Number: 6123140242

amec foster wheeler

Figure: 2A

Document Path: G:\Norfolk Southern Columbus\mxds\August EPA Report\Site_Map_of_Site_Area.mxd

Former E Cohn Property, Columbus, Georgia

Site Map with Background Locations

Prepared By-Date: JRM - 8/12/2016

Checked By-Date: TRK - 8/12/2016

Project Number: 6123140242

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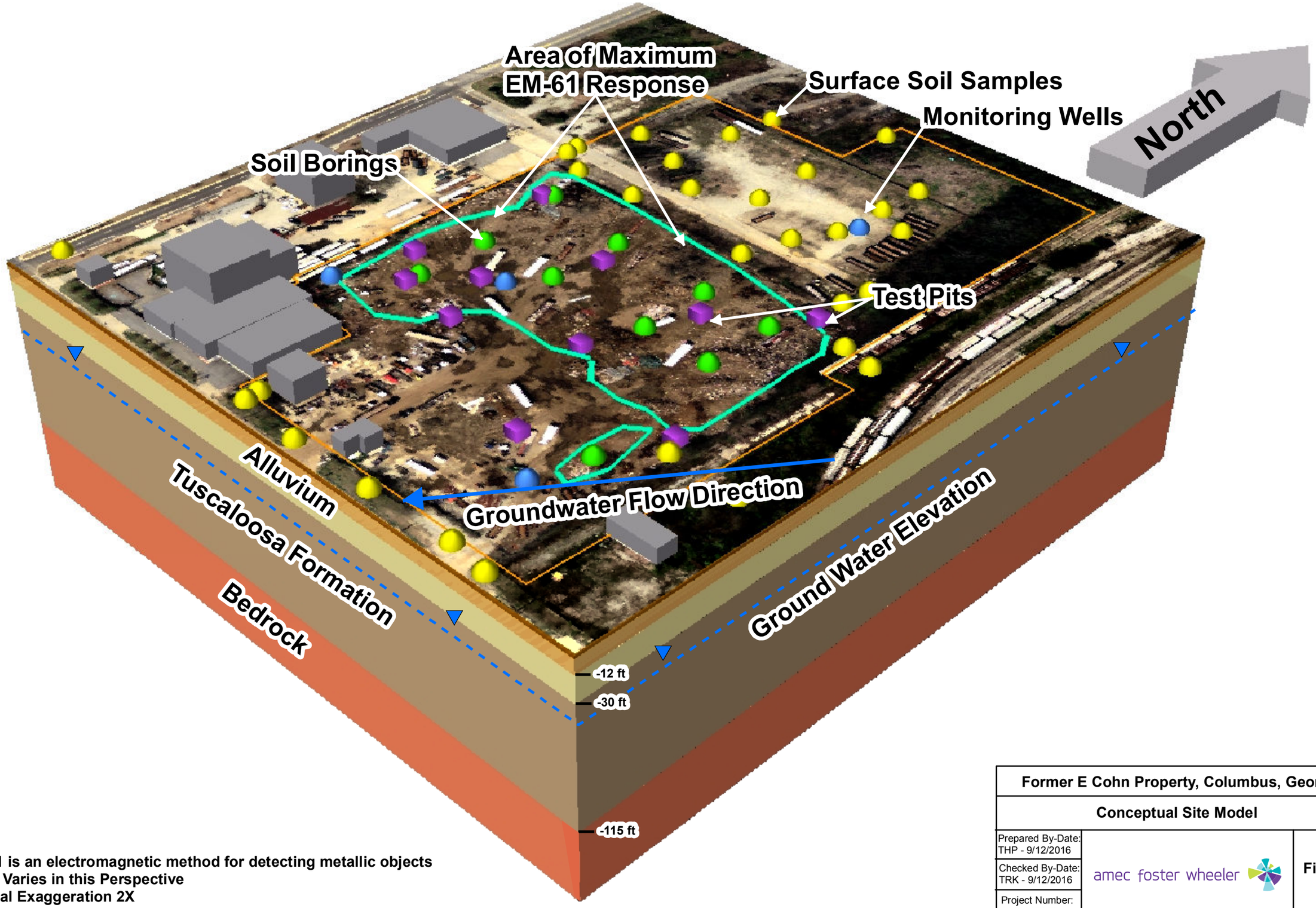
Figure: 2B

Document Path: G:\Norfolk Southern Columbus\mxds\August EPA Report\Site_Map_with_Background_Locations.mxd



Notes:
1. EM-61 is an electromagnetic method for detecting metallic objects
2. Scale Varies in this Perspective
3. Vertical Exaggeration 2X

Former E Cohn Property, Columbus, Georgia		
Conceptual Site Model		
Prepared By-Date: THP - 9/12/2016	amec foster wheeler	Figure: 3
Checked By-Date: TRK - 9/12/2016		
Project Number: 6123140242		

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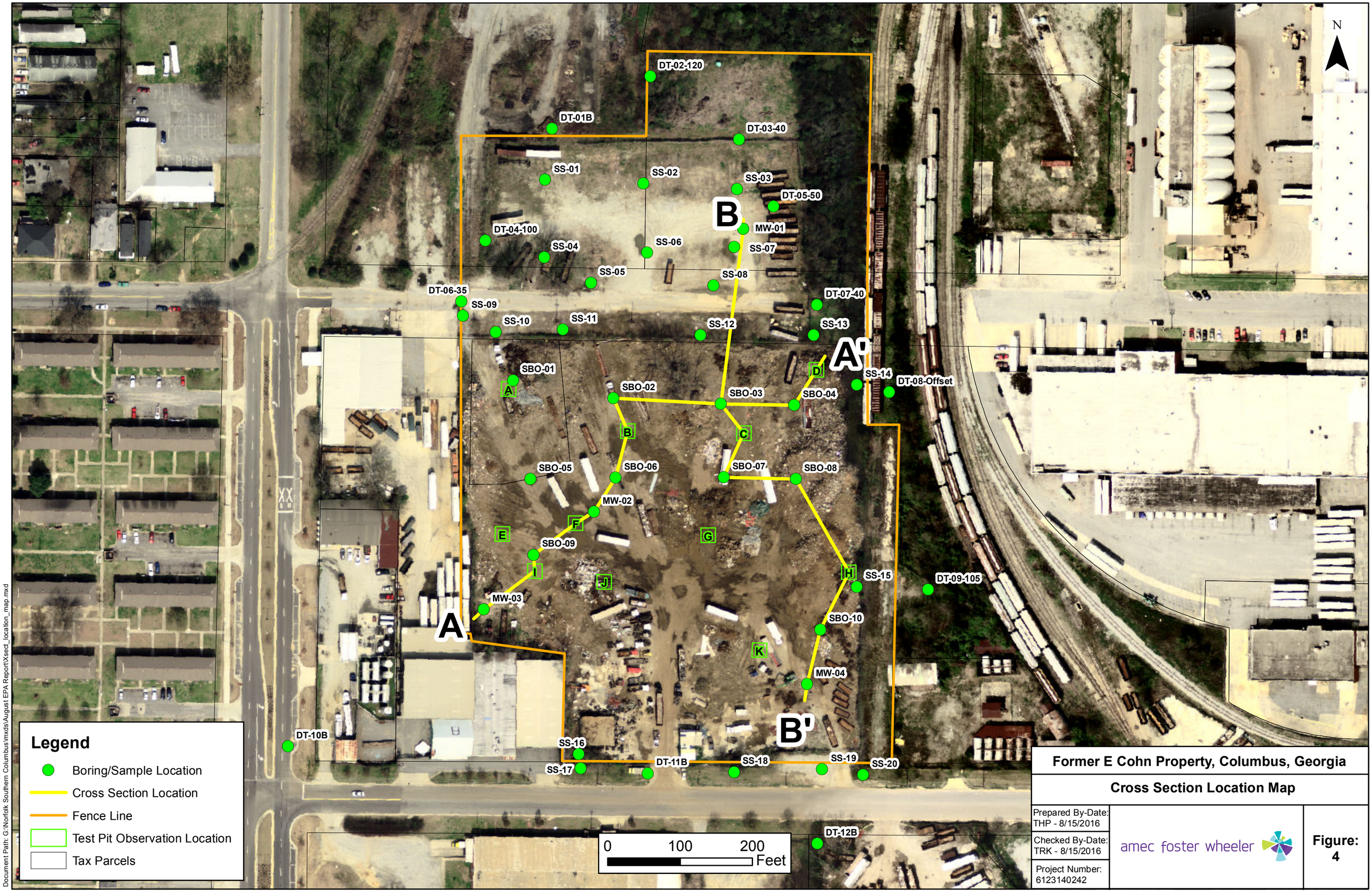

Former E Cohn Property, Columbus, Georgia

Cross Section Location Map

Prepared By-Date: THP - 8/15/2016	amec foster wheeler	Figure: 4
Checked By-Date: TRK - 8/15/2016		
Project Number: 6123140242		

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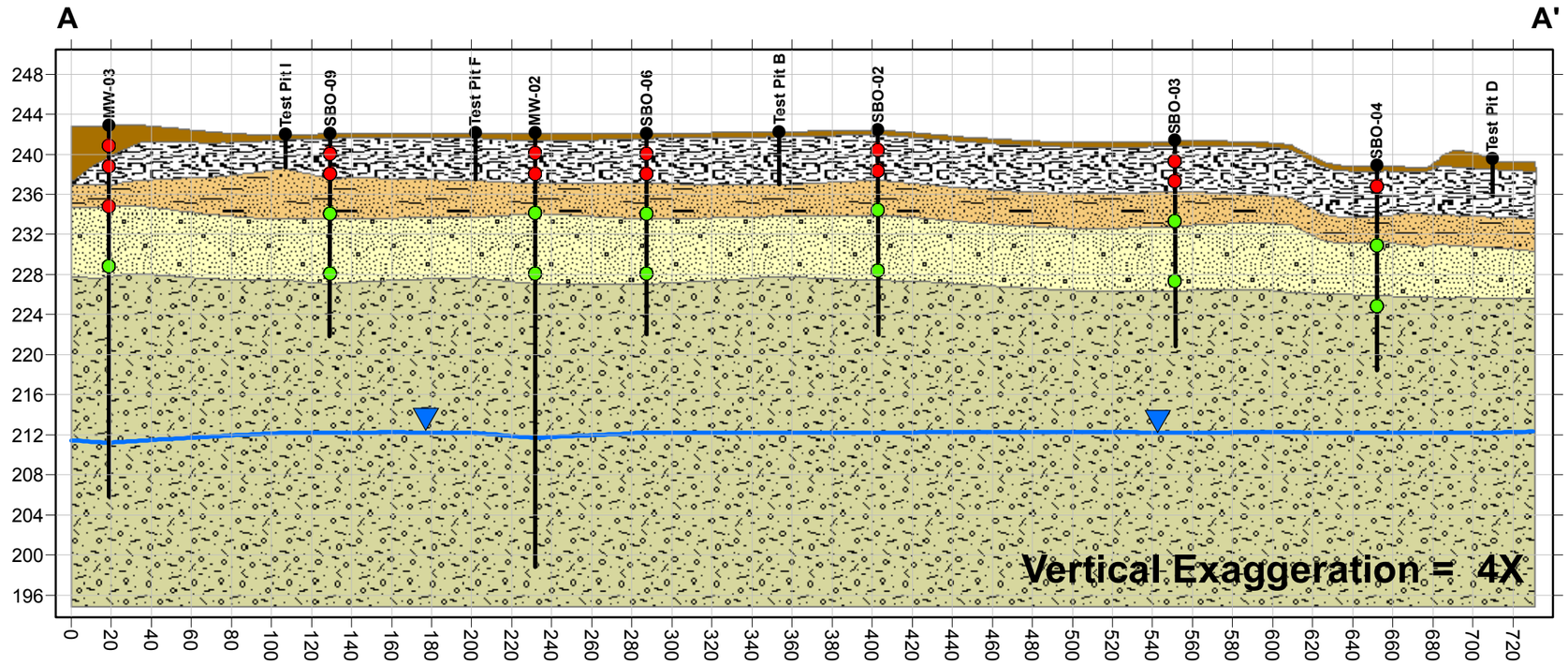
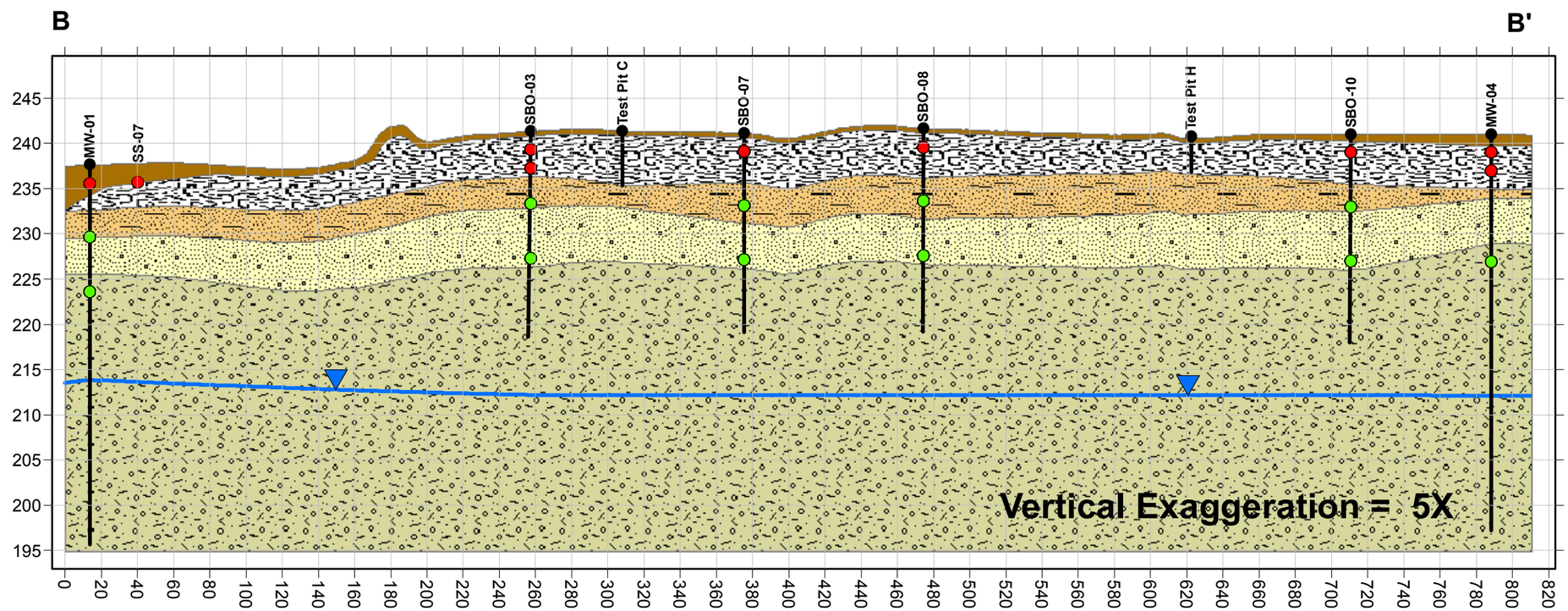


Legend

- Boring/Well/Test Pit
- Groundwater Elevation
- Fill
- Soil with Incorporated Foreign Material
- Silty Clay
- Silty Sand
- Silty Sand with Stone
- No Exceedances
- Exceeds RiskReduction Standard or Background



Norfolk Southern, Columbus, Georgia

Cross Section A – A' and B – B'

Prepared by/Date: THP - 7/29/2016
Checked by/Date: JJ - 7/29/2016
Project Number: 6123140242

amec foster wheeler

Figure Number: 5

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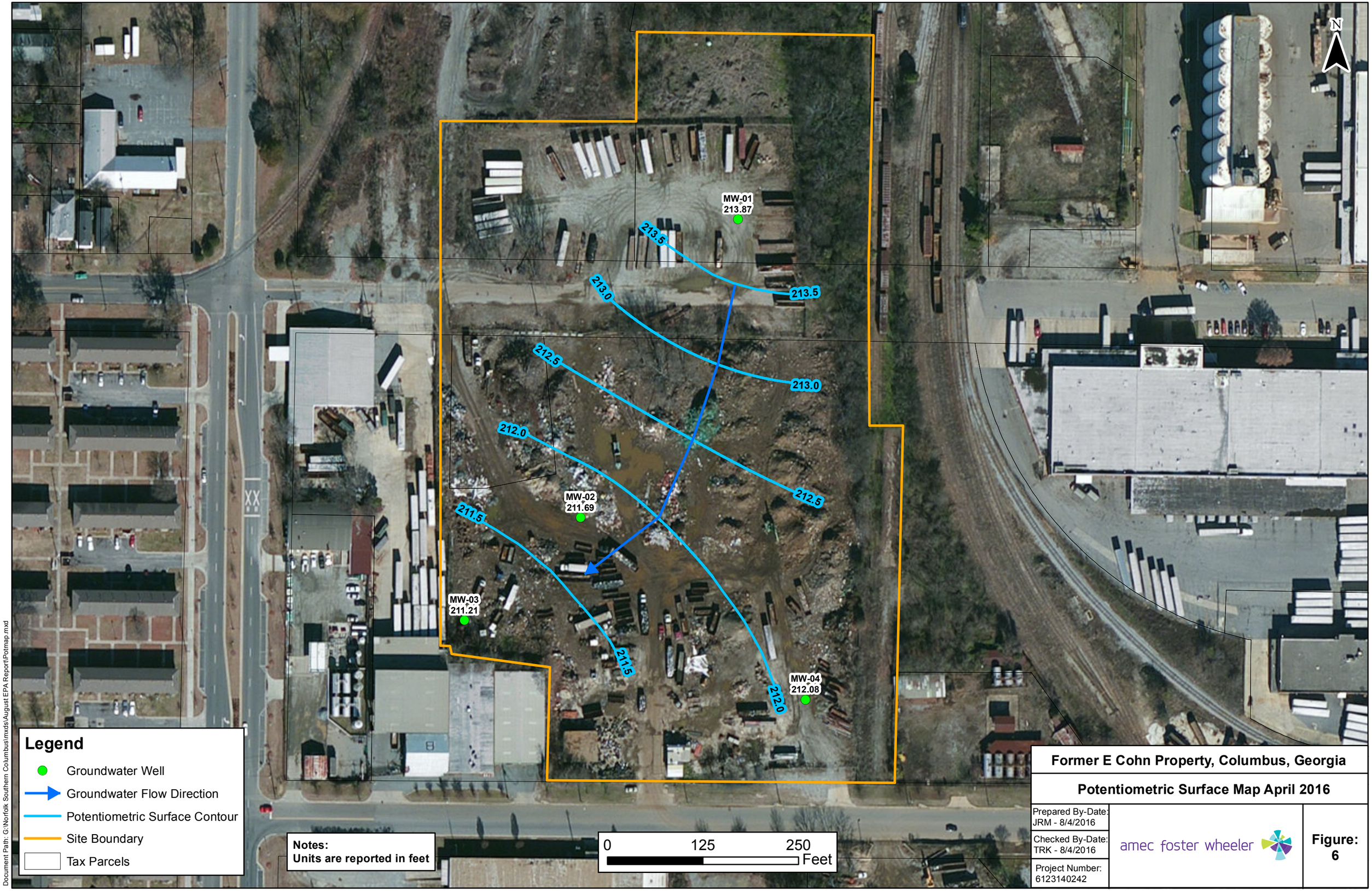


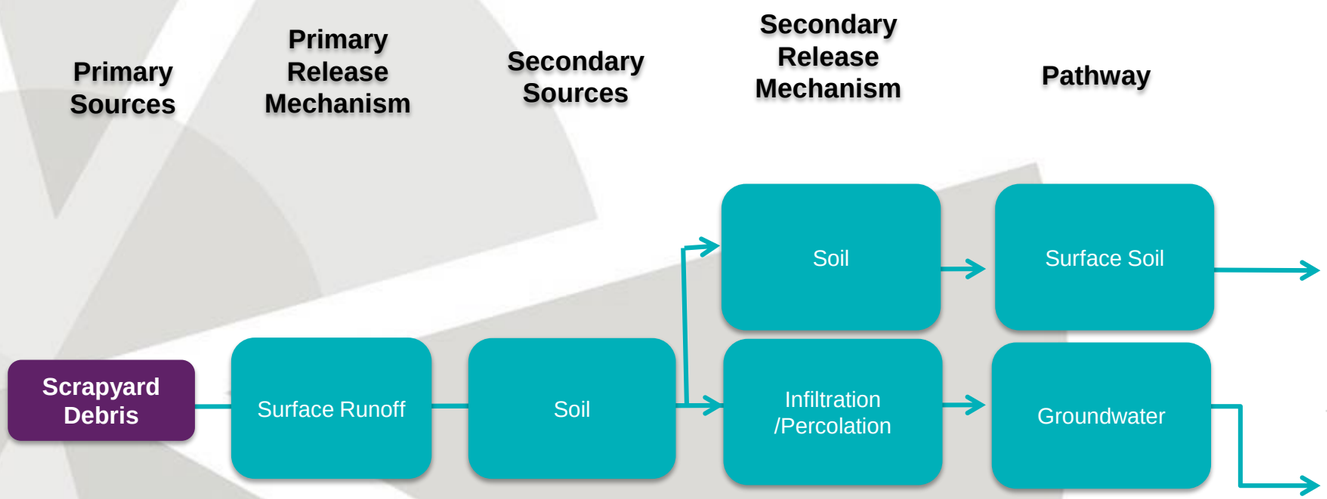
Former E Cohn Property, Columbus, Georgia

Potentiometric Surface Map April 2016

Prepared By-Date: JRM - 8/4/2016	amec foster wheeler	Figure: 6
Checked By-Date: TRK - 8/4/2016		
Project Number: 6123140242		

Document Path: G:\Norfolk Southern Columbus\mxds\August EPA Report\Potmap.mxd

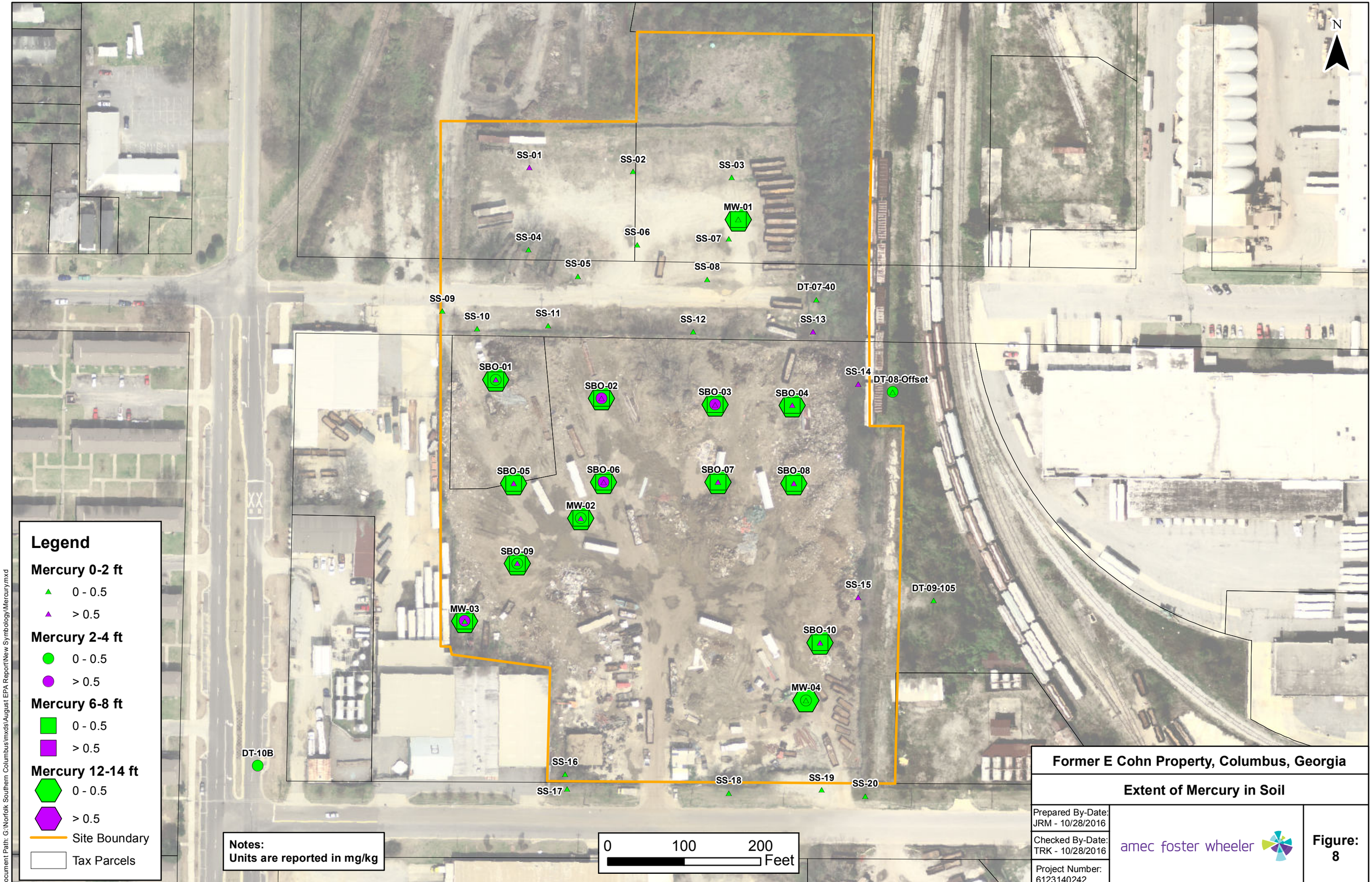
Figure 7: Pathway Receptor Network Diagram
Former E. Cohn Property
Columbus, GA



Exposure Route	HUMAN		BIOTA	
	Off-Site Area Residents	On-Site Workers/Visitors	Terrestrial	Aquatic
Ingestion	●	●	●	
Inhalation	●	●	●	
Dermal/Direct Contact	●	●	●	
Food Web			●	
Ingestion	○	○		
Dermal Contact	○	○		

● Potentially Complete Pathway

○ Assumes No Complete Pathway with an Environmental Covenant for Site



Former E Cohn Property, Columbus, Georgia

Extent of Mercury in Soil

Prepared By-Date: JRM - 10/28/2016

Checked By-Date: TRK - 10/28/2016

Project Number: 6123140242

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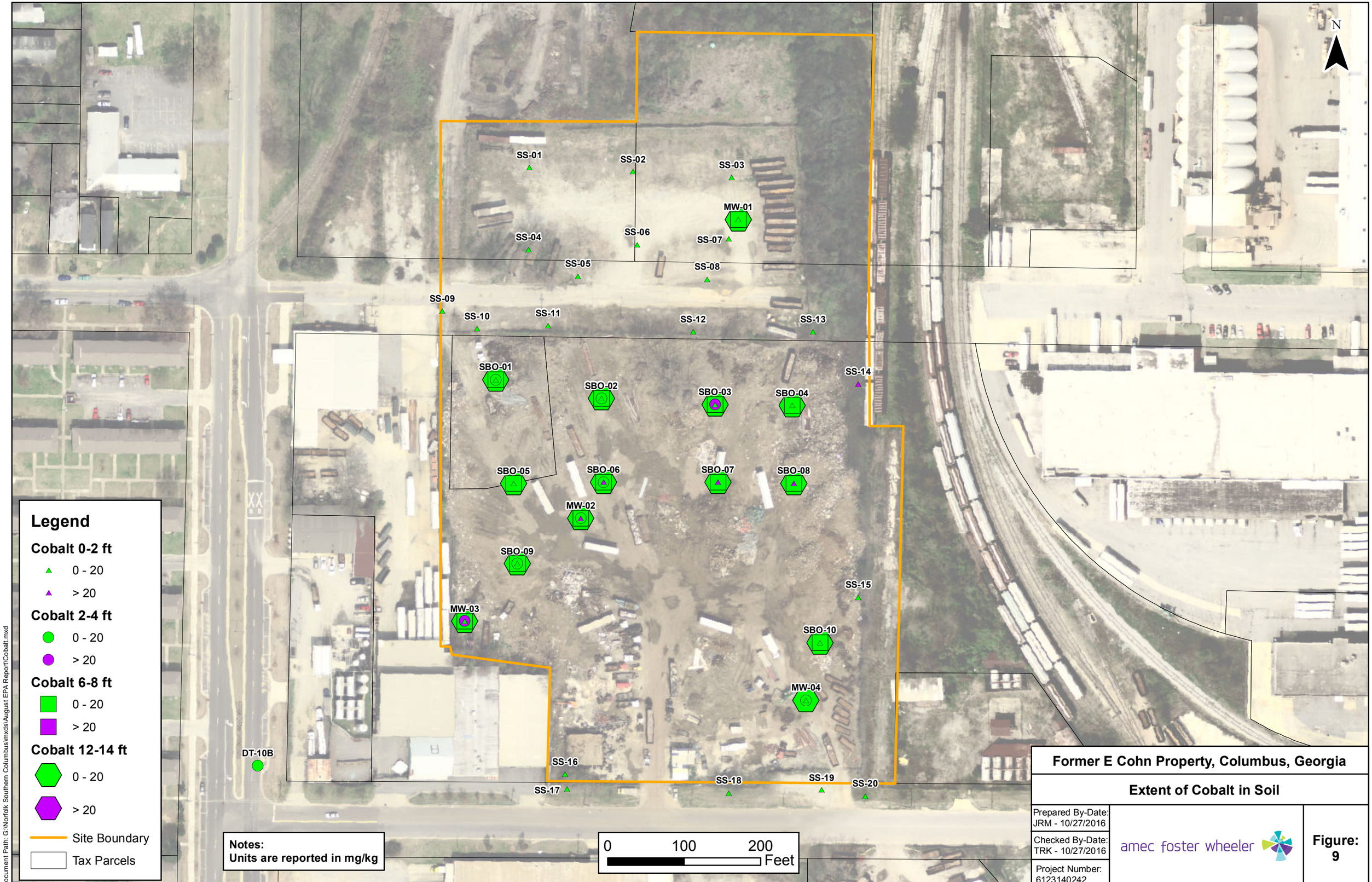
Figure: 8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SS-01
SS-02
SS-03
MW-01
SS-04
SS-06
SS-07
SS-05
SS-08
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
SS-18
SS-19
SS-20
Legend
Cobalt 0-2 ft
0 - 20
> 20
Cobalt 2-4 ft
0 - 20
> 20
Cobalt 6-8 ft
0 - 20
> 20
Cobalt 12-14 ft
0 - 20
> 20
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Cobalt in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
6123140242
amec foster wheeler
Figure:
9
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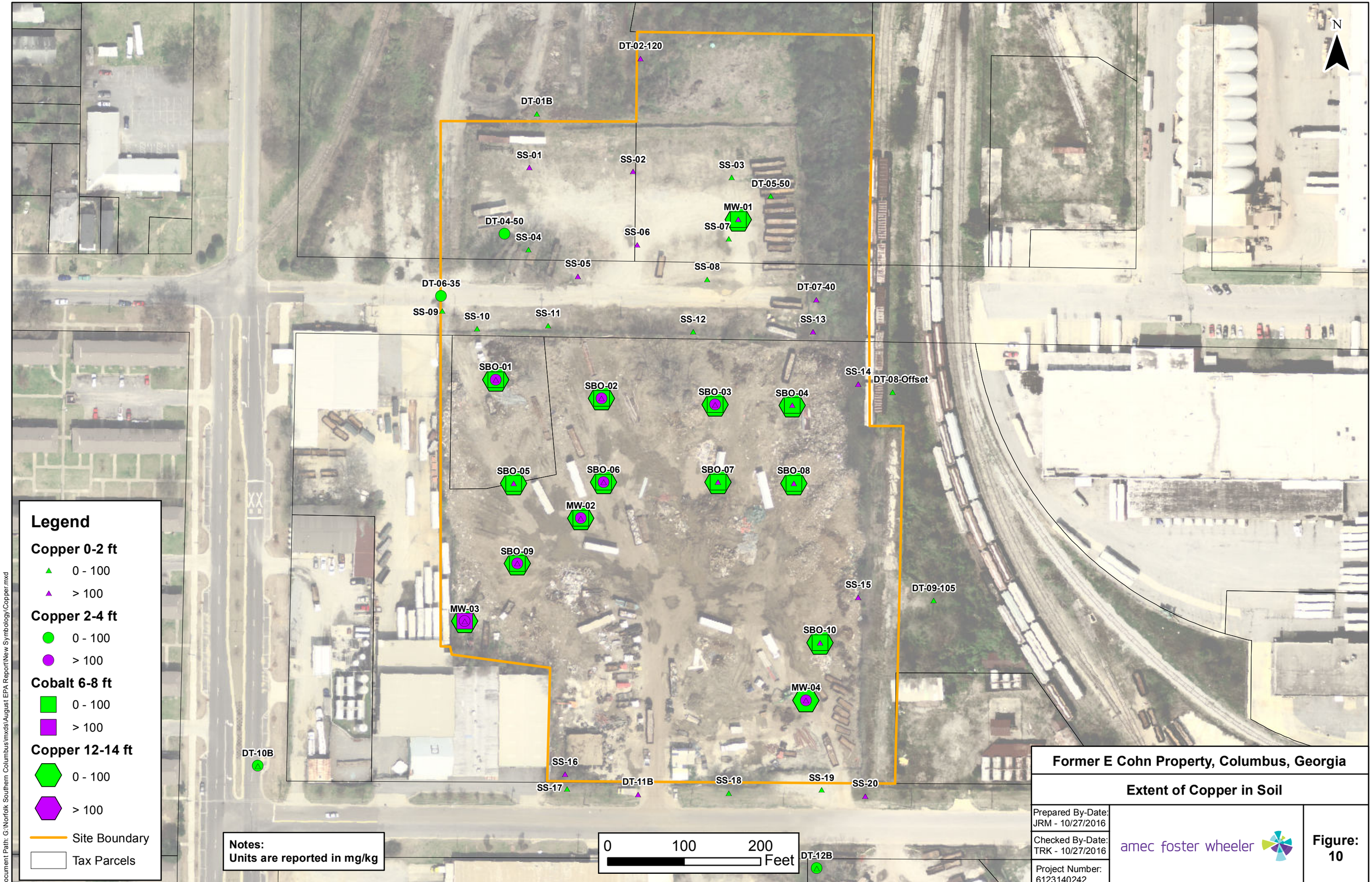
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SS-02
SS-03
DT-05-50
MW-01
SS-07
DT-04-50
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SS-05
SS-08
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
DT-09-105
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
DT-11B
SS-18
SS-19
SS-20
DT-12B
Legend
Copper 0-2 ft
0 - 100
> 100
Copper 2-4 ft
0 - 100
> 100
Cobalt 6-8 ft
0 - 100
> 100
Copper 12-14 ft
0 - 100
> 100
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Copper in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
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Figure:
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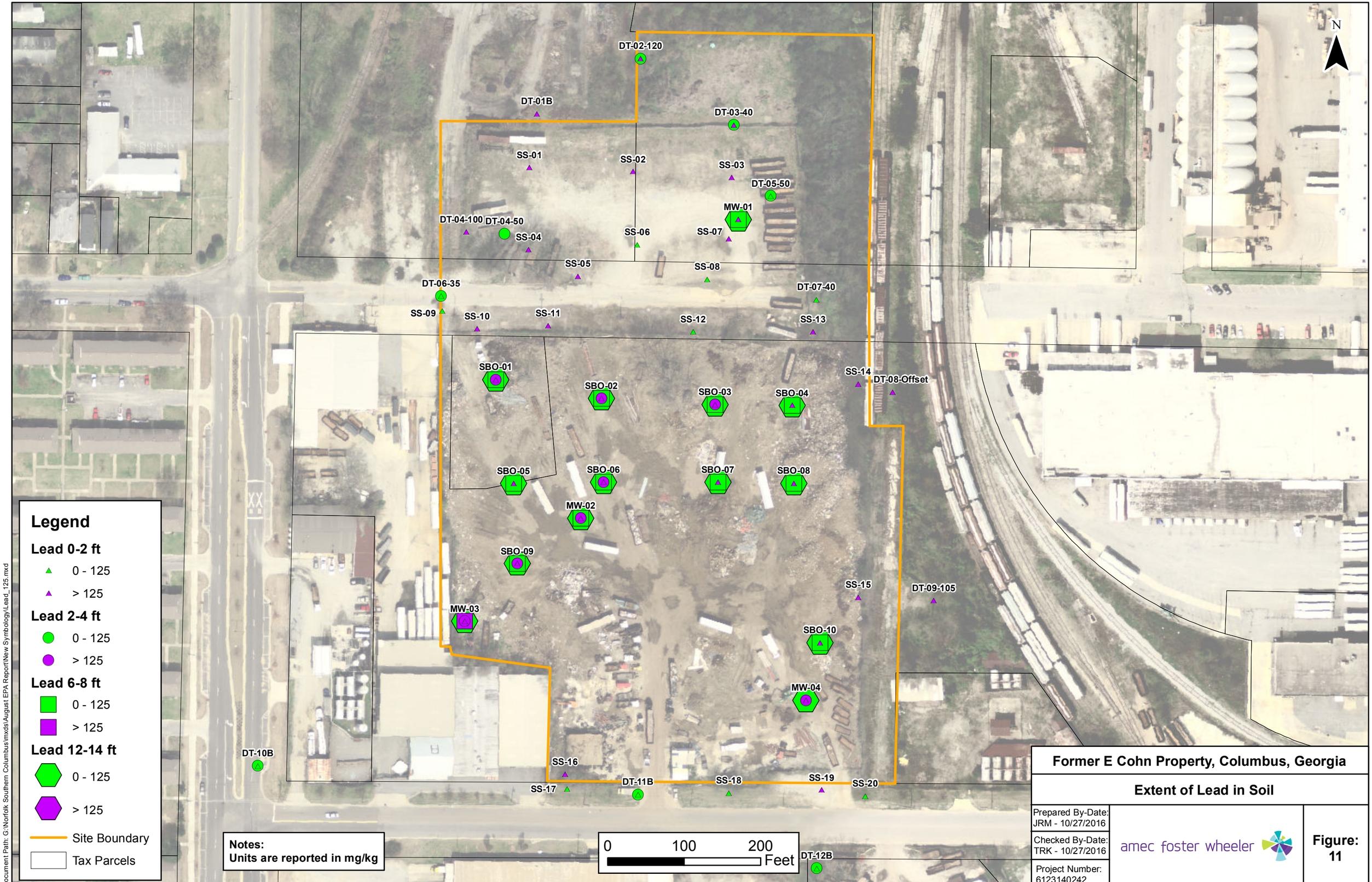
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MW-01
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SS-04
SS-06
SS-07
SS-05
SS-08
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
DT-09-105
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
DT-11B
SS-18
SS-19
SS-20
DT-12B
Legend
Lead 0-2 ft
0 - 125
> 125
Lead 2-4 ft
0 - 125
> 125
Lead 6-8 ft
0 - 125
> 125
Lead 12-14 ft
0 - 125
> 125
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Lead in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
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amec foster wheeler
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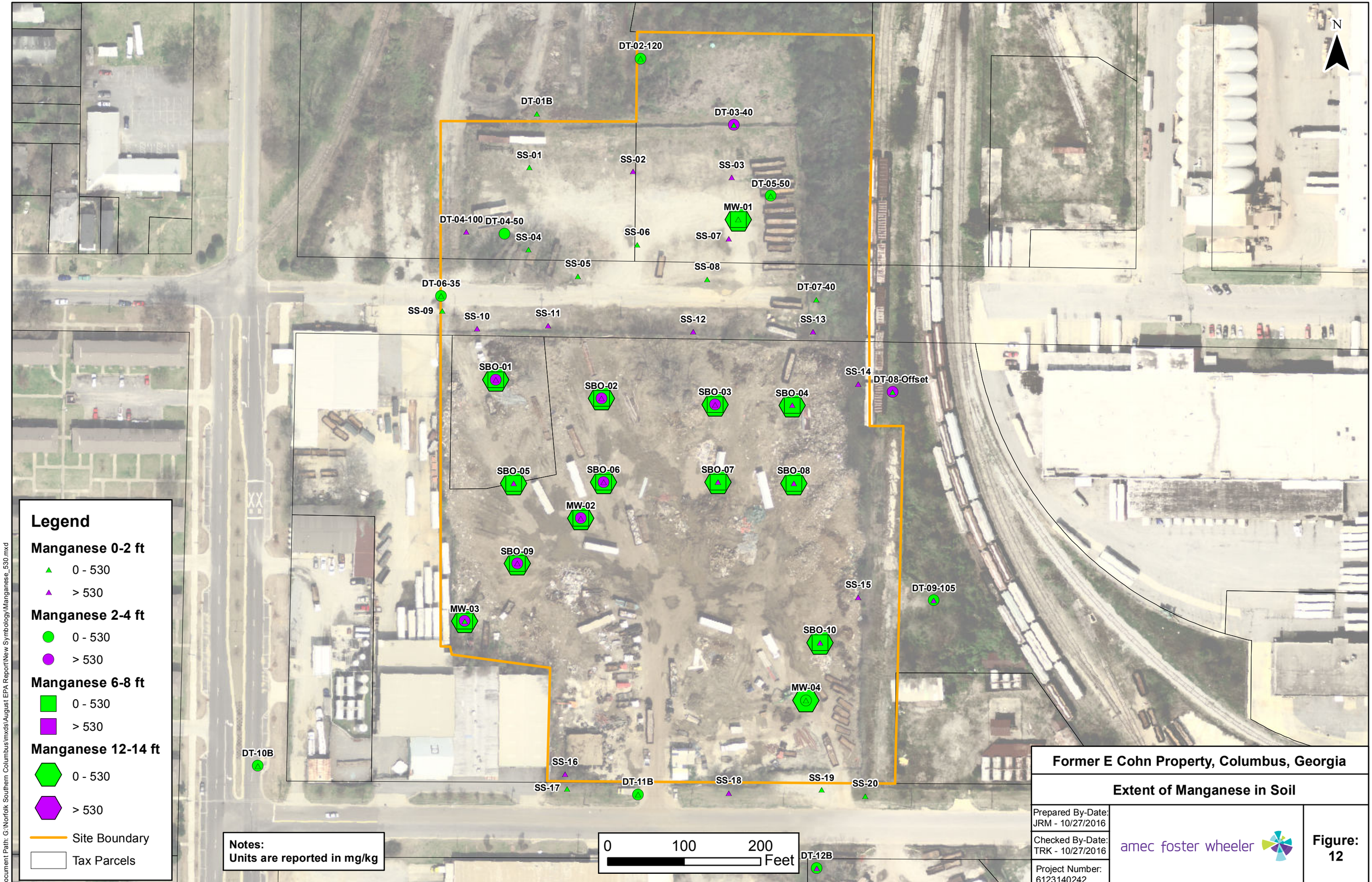
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SS-03
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MW-01
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SS-05
SS-08
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
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SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
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MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
DT-11B
SS-18
SS-19
SS-20
DT-12B
Legend
Manganese 0-2 ft
0 - 530
> 530
Manganese 2-4 ft
0 - 530
> 530
Manganese 6-8 ft
0 - 530
> 530
Manganese 12-14 ft
0 - 530
> 530
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Manganese in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
6123140242
amec foster wheeler
Figure:
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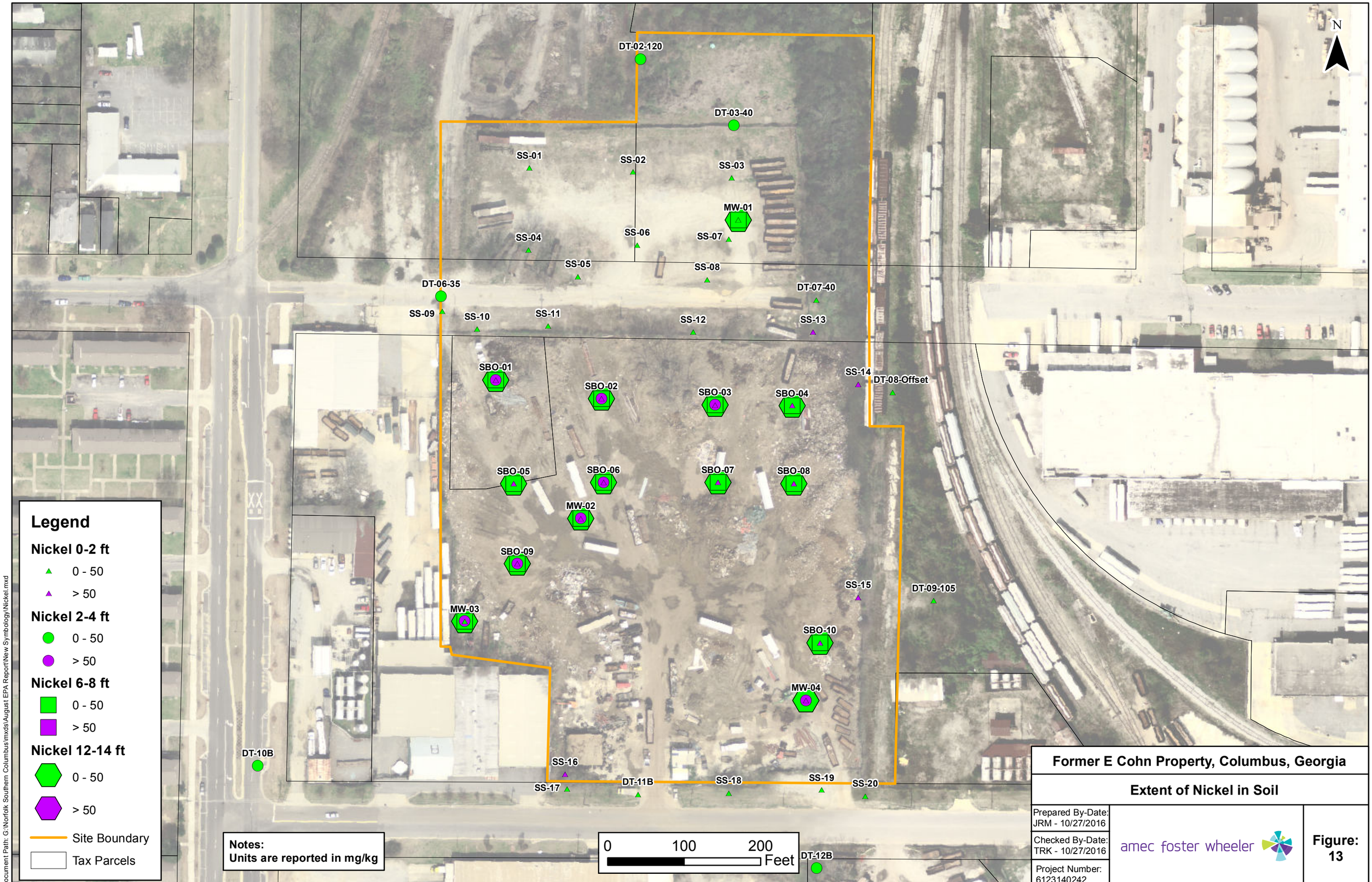
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MW-01
SS-04
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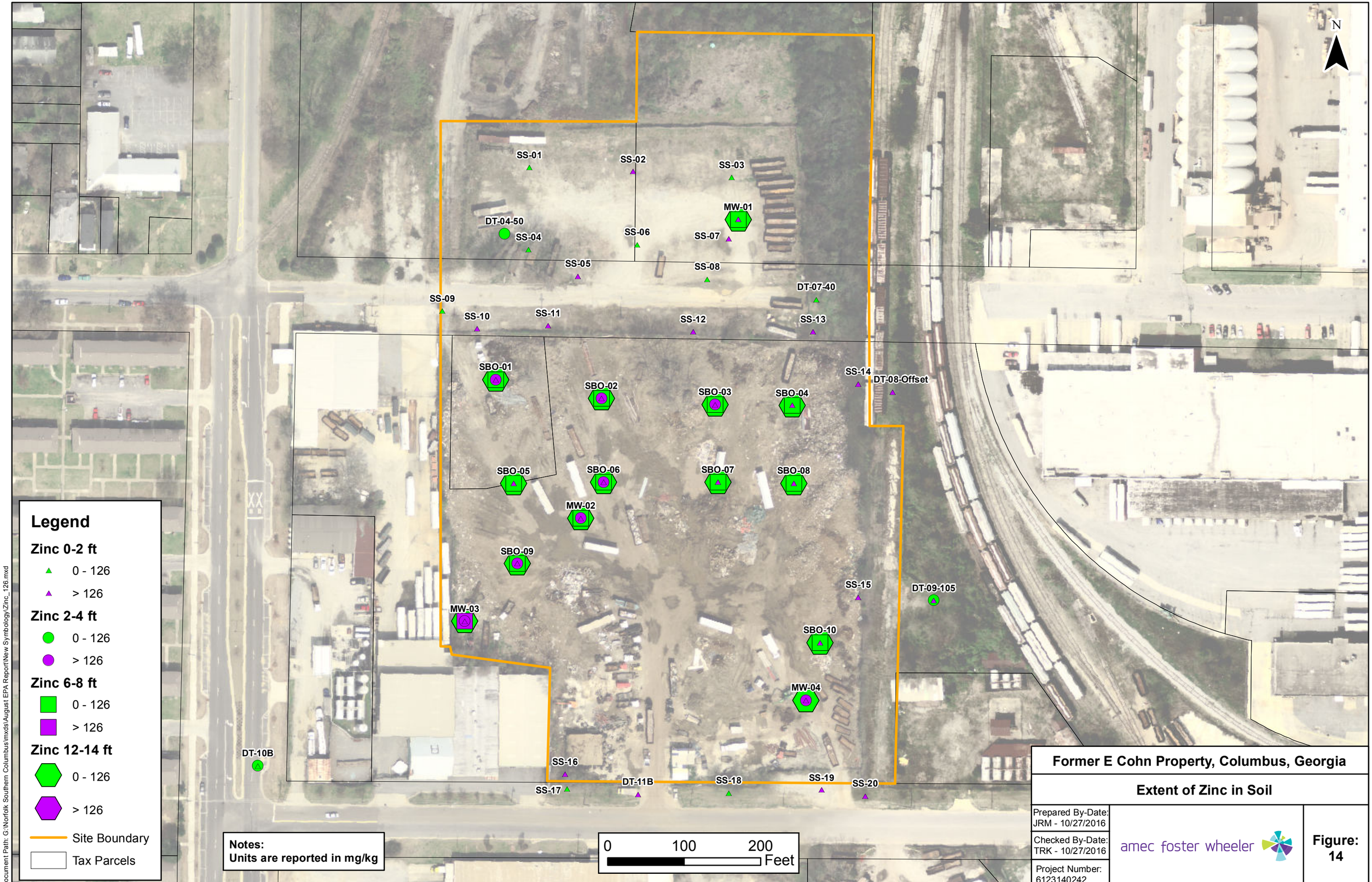
SS-07
SS-05
SS-08
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
DT-09-105
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
DT-11B
SS-18
SS-19
SS-20
DT-12B
Legend
Nickel 0-2 ft
0 - 50
> 50
Nickel 2-4 ft
0 - 50
> 50
Nickel 6-8 ft
0 - 50
> 50
Nickel 12-14 ft
0 - 50
> 50
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Nickel in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
6123140242
amec foster wheeler
Figure:
13
Document Path: G:\Norfolk Southern Columbus\mxds\August EPA Report\New Symbology\Nickel.mxd



Former E Cohn Property, Columbus, Georgia

Extent of Zinc in Soil

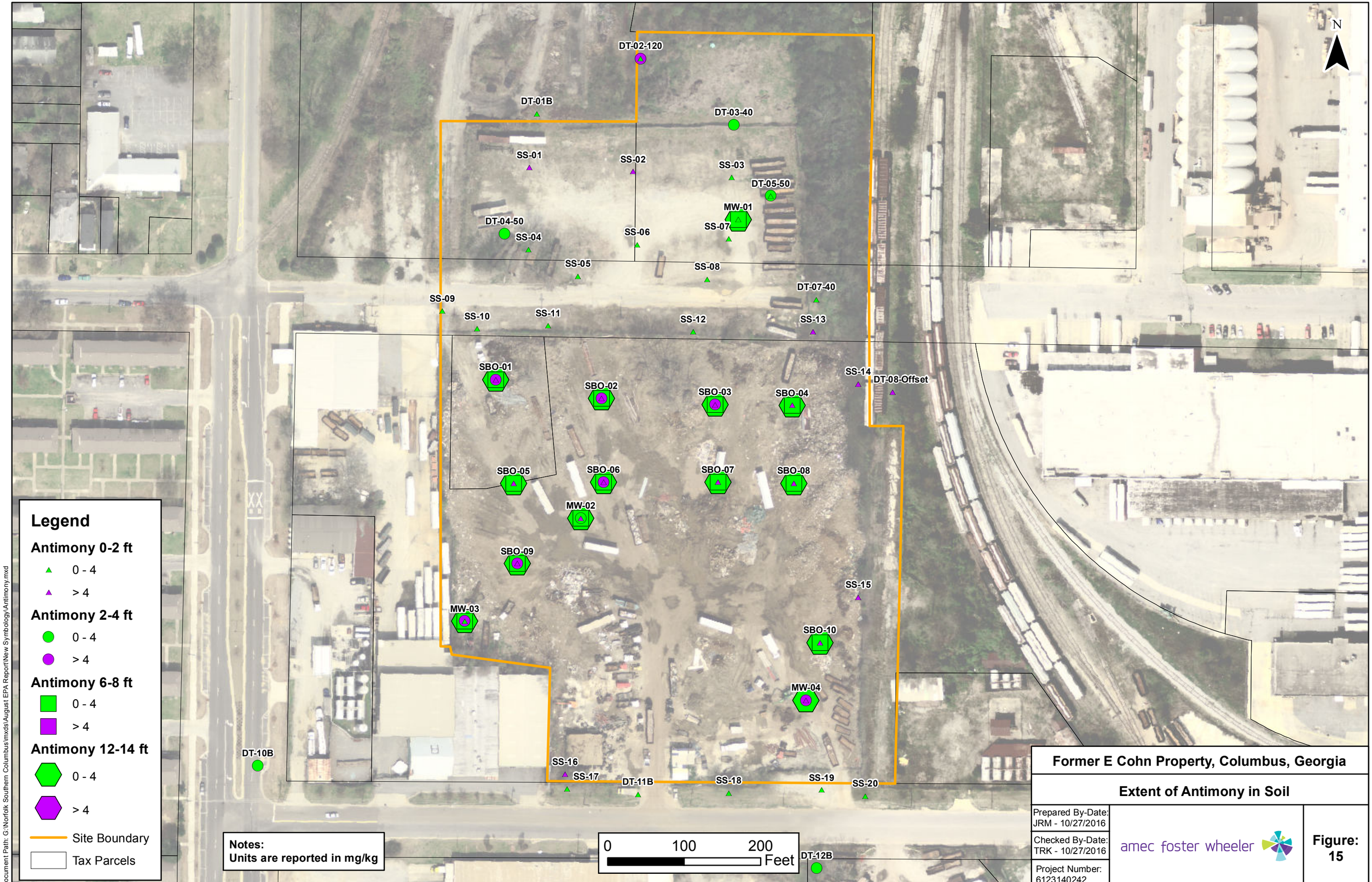
Prepared By-Date: JRM - 10/27/2016

Checked By-Date: TRK - 10/27/2016

Project Number: 6123140242

amec foster wheeler

Figure: 14


N
DT-02-120
DT-01B
DT-03-40
SS-01
SS-02
SS-03
DT-05-50
MW-01
DT-04-50
SS-04
SS-06
SS-07
SS-05
SS-08
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
DT-11B
SS-18
SS-19
SS-20
DT-12B
Legend
Antimony 0-2 ft
0 - 4
> 4
Antimony 2-4 ft
0 - 4
> 4
Antimony 6-8 ft
0 - 4
> 4
Antimony 12-14 ft
0 - 4
> 4
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Antimony in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
6123140242
amec foster wheeler
Figure:
15
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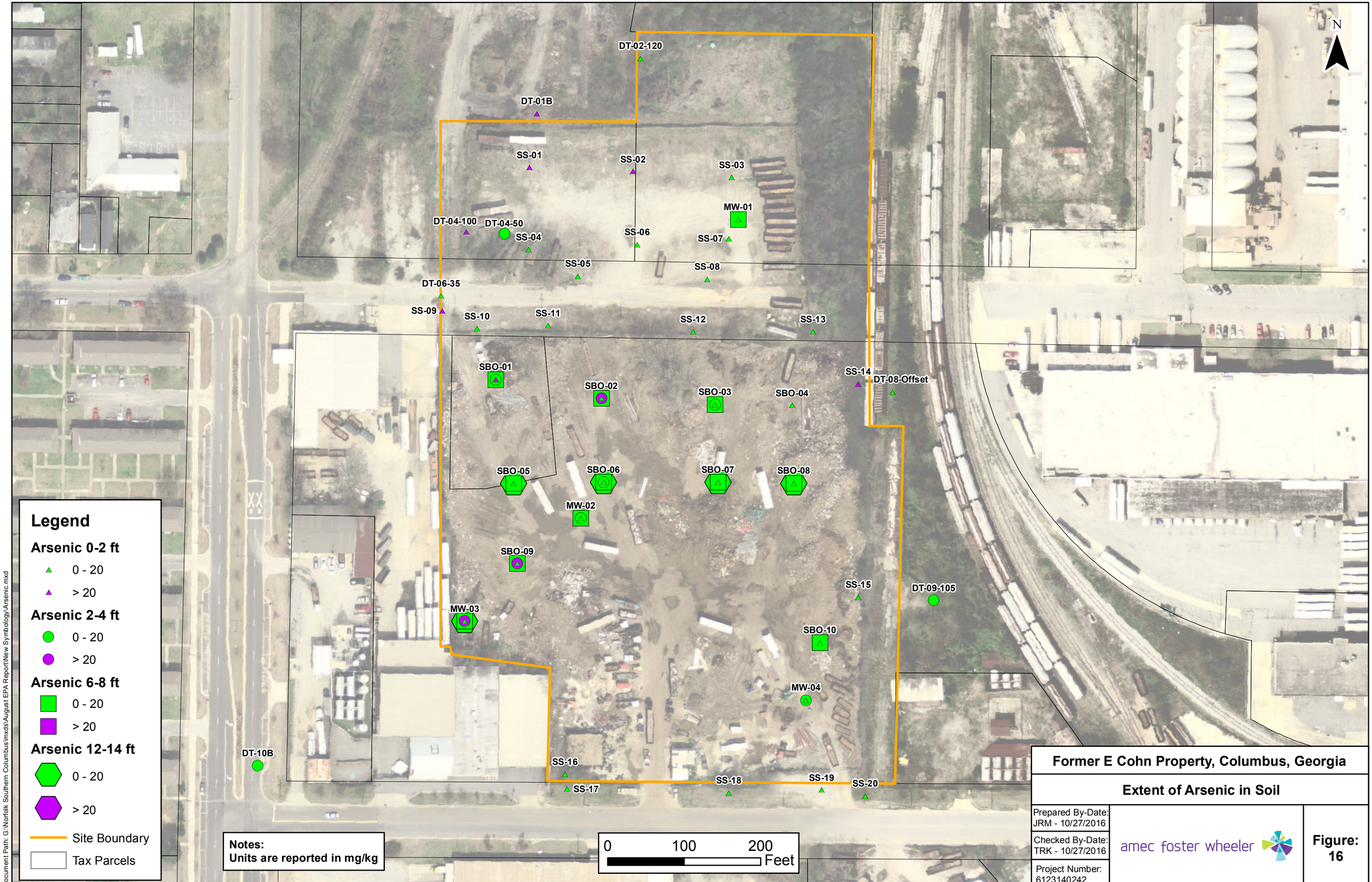
N
DT-02-120
DT-01B
SS-01
SS-02
SS-03
MW-01
DT-04-100
DT-04-50
SS-04
SS-06
SS-07
SS-05
SS-08
DT-06-35
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
MW-03
SS-15
DT-09-105
SBO-10
MW-04
DT-10B
SS-16
SS-17
SS-18
SS-19
SS-20
Legend
Arsenic 0-2 ft
0 - 20
> 20
Arsenic 2-4 ft
0 - 20
> 20
Arsenic 6-8 ft
0 - 20
> 20
Arsenic 12-14 ft
0 - 20
> 20
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Arsenic in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
6123140242
amec foster wheeler
Figure:
16
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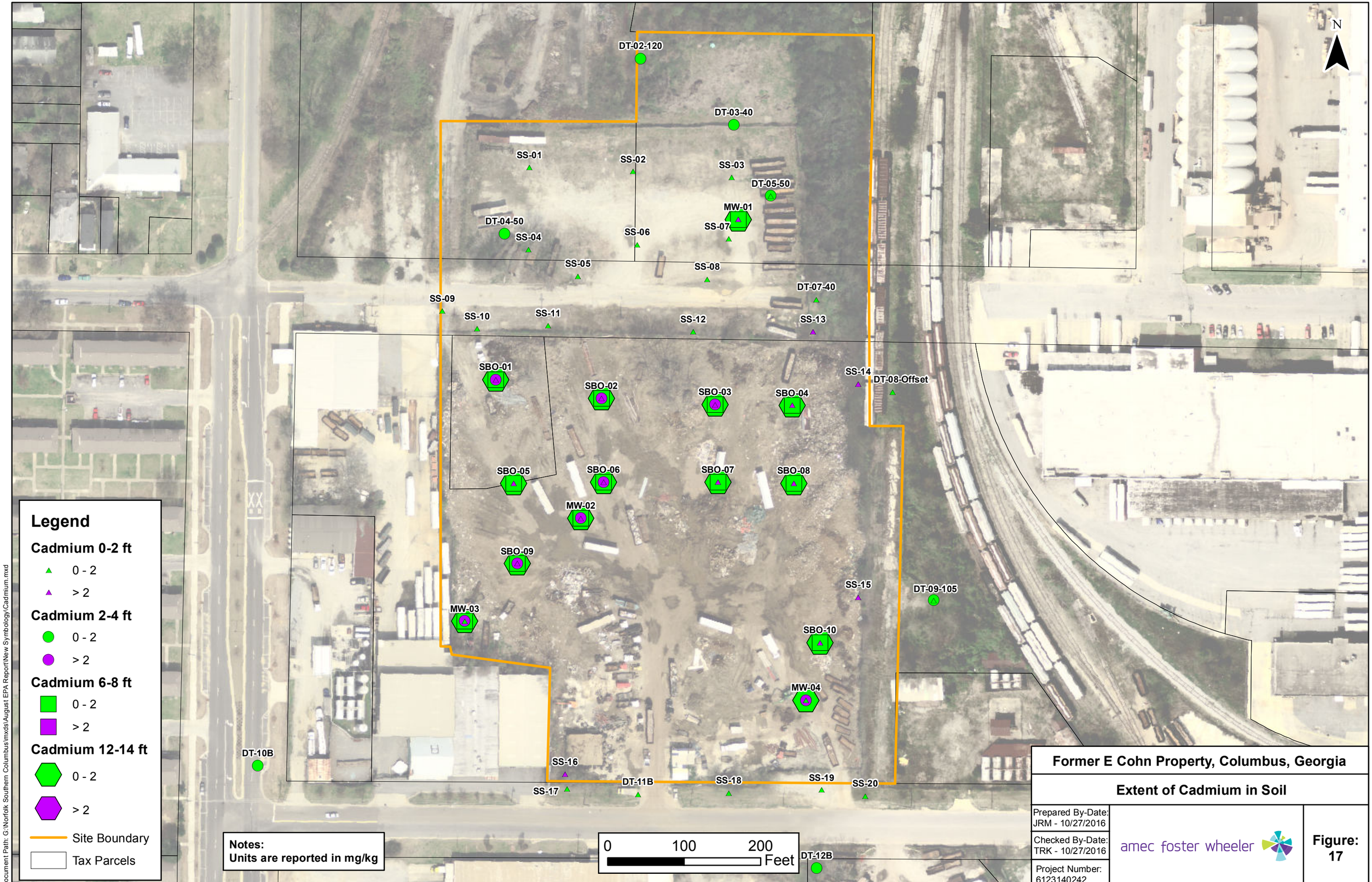
N
DT-02-120
DT-03-40
SS-01
SS-02
SS-03
DT-05-50
MW-01
SS-07
DT-04-50
SS-04
SS-06
SS-05
SS-08
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
DT-09-105
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
DT-11B
SS-18
SS-19
SS-20
DT-12B
Legend
Cadmium 0-2 ft
0 - 2
> 2
Cadmium 2-4 ft
0 - 2
> 2
Cadmium 6-8 ft
0 - 2
> 2
Cadmium 12-14 ft
0 - 2
> 2
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Cadmium in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
6123140242
amec foster wheeler
Figure:
17
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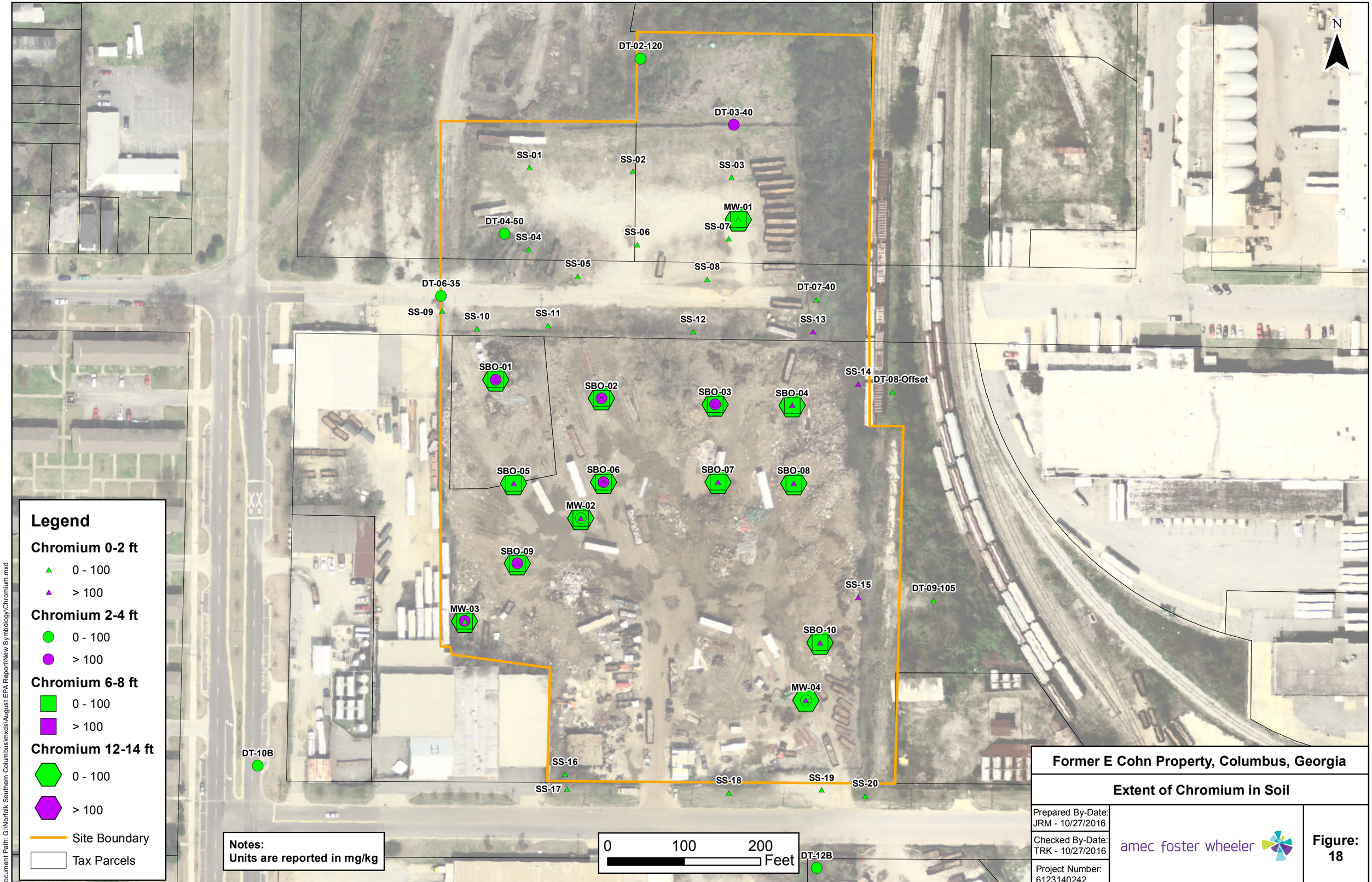
N
DT-02-120
DT-03-40
SS-01
SS-02
SS-03
MW-01
SS-07
DT-04-50
SS-04
SS-06
SS-05
SS-08
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
DT-09-105
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
SS-18
SS-19
SS-20
DT-12B
Legend
Chromium 0-2 ft
0 - 100
> 100
Chromium 2-4 ft
0 - 100
> 100
Chromium 6-8 ft
0 - 100
> 100
Chromium 12-14 ft
0 - 100
> 100
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Chromium in Soil
Prepared By-Date:
JRM - 10/27/2016
Checked By-Date:
TRK - 10/27/2016
Project Number:
6123140242
amec foster wheeler
Figure:
18
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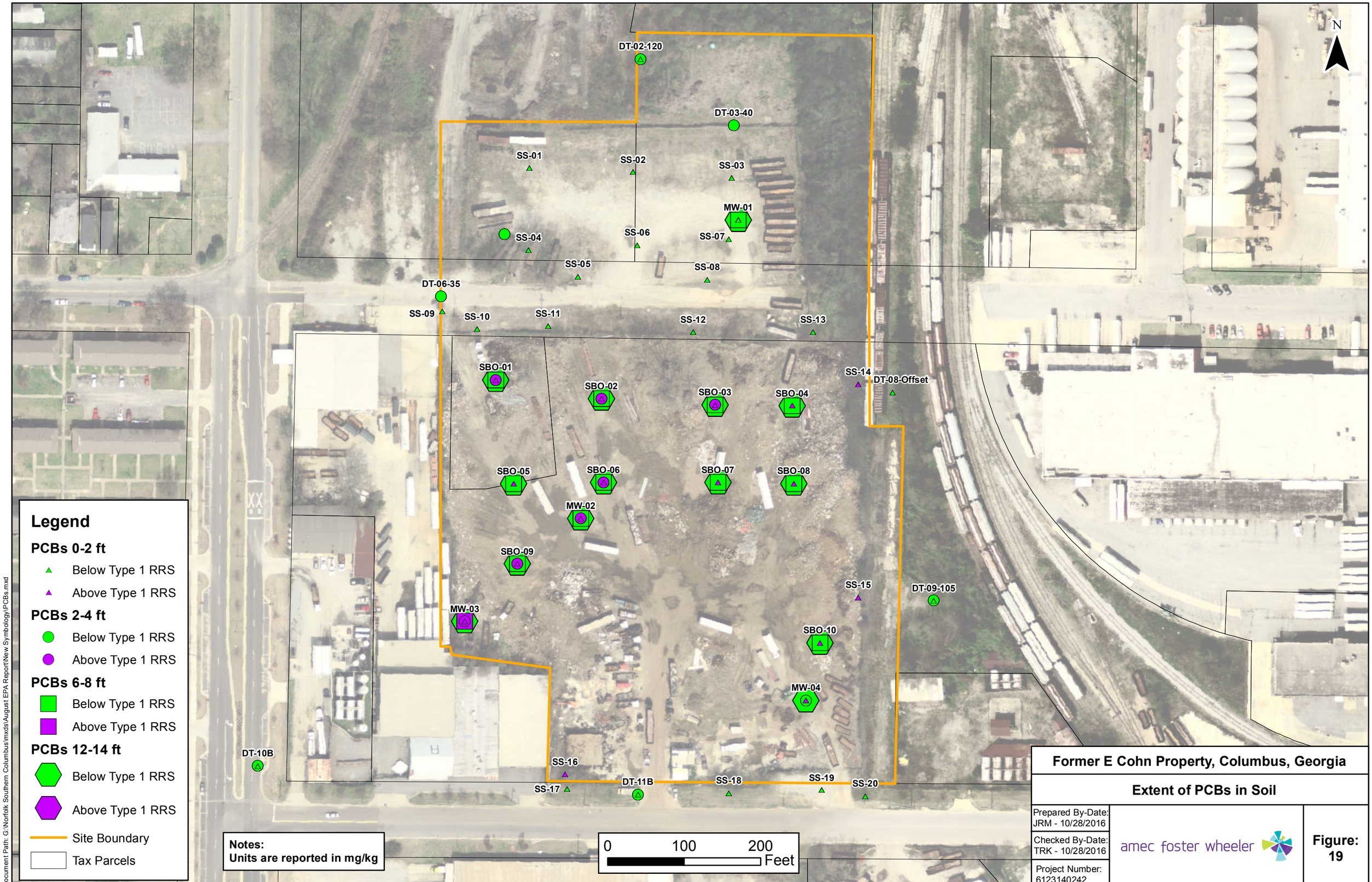


Former E Cohn Property, Columbus, Georgia

Extent of PCBs in Soil

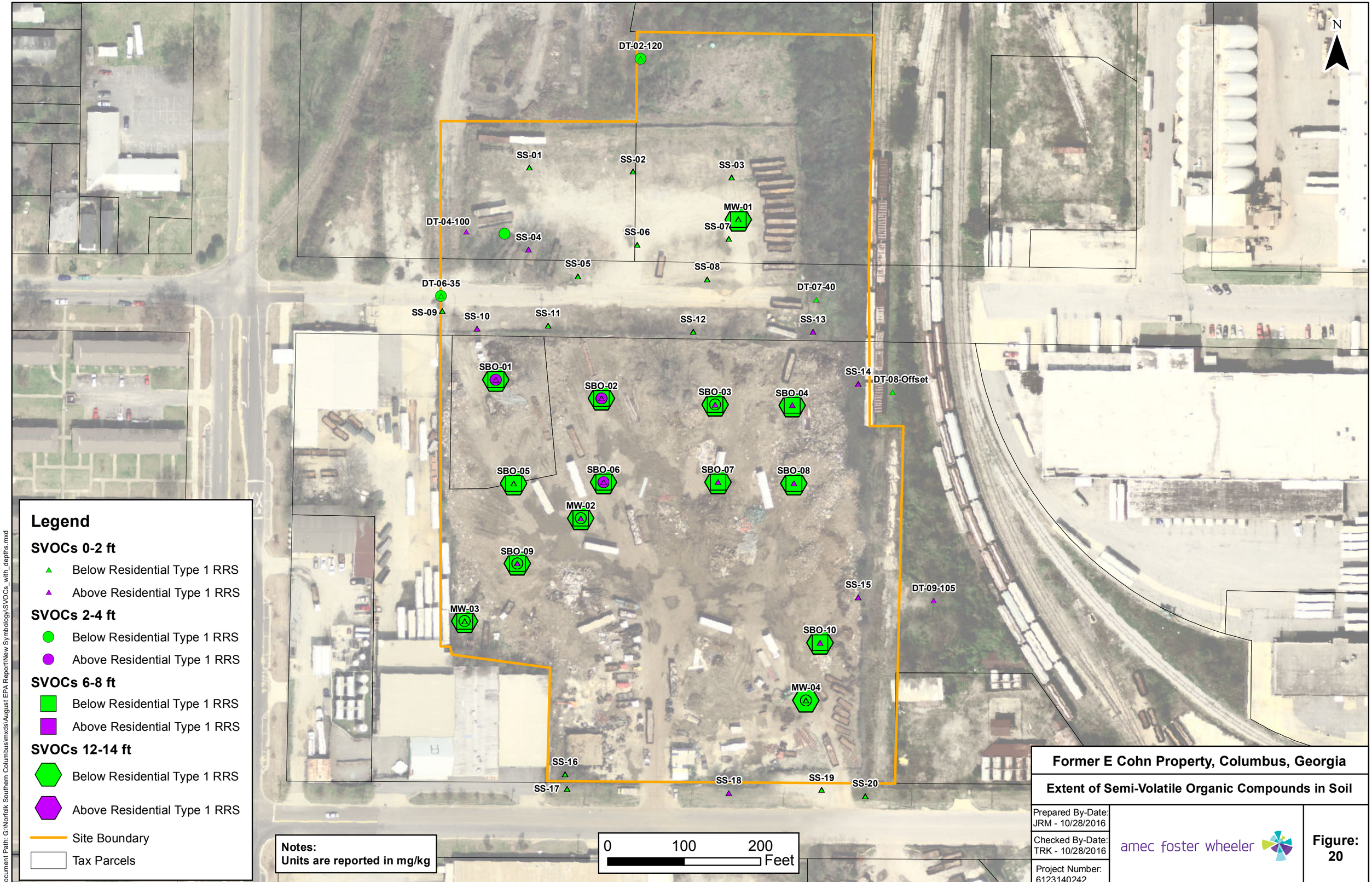
Prepared By-Date: JRM - 10/28/2016

Checked By-Date: TRK - 10/28/2016

Project Number: 6123140242

amec foster wheeler

Figure: 19


N
DT-02-120
SS-01
SS-02
SS-03
MW-01
SS-07
DT-04-100
SS-04
SS-06
SS-05
SS-08
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
DT-08-Offset
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
DT-09-105
MW-03
SBO-10
MW-04
SS-16
SS-17
SS-18
SS-19
SS-20
Legend
SVOCs 0-2 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
SVOCs 2-4 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
SVOCs 6-8 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
SVOCs 12-14 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Semi-Volatile Organic Compounds in Soil
Prepared By-Date:
JRM - 10/28/2016
Checked By-Date:
TRK - 10/28/2016
Project Number:
6123140242
amec foster wheeler
Figure:
20
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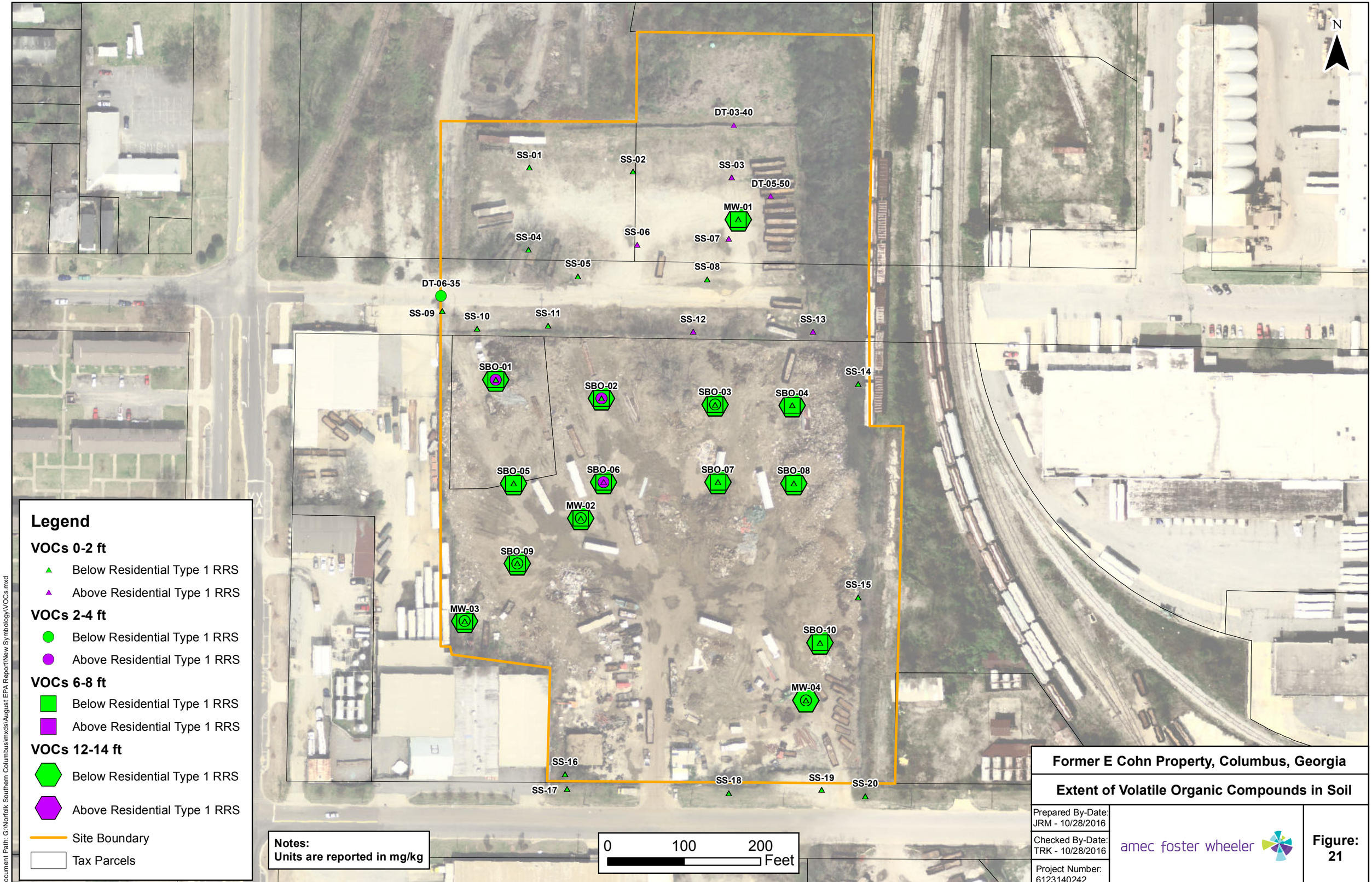
N
DT-03-40
SS-01
SS-02
SS-03
DT-05-50
MW-01
SS-04
SS-06
SS-07
SS-05
SS-08
DT-06-35
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
MW-02
SBO-09
SS-15
MW-03
SBO-10
MW-04
SS-16
SS-17
SS-18
SS-19
SS-20
Legend
VOCs 0-2 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
VOCs 2-4 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
VOCs 6-8 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
VOCs 12-14 ft
Below Residential Type 1 RRS
Above Residential Type 1 RRS
Site Boundary
Tax Parcels
Notes:
Units are reported in mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Volatile Organic Compounds in Soil
Prepared By-Date:
JRM - 10/28/2016
Checked By-Date:
TRK - 10/28/2016
Project Number:
6123140242
amec foster wheeler
Figure:
21
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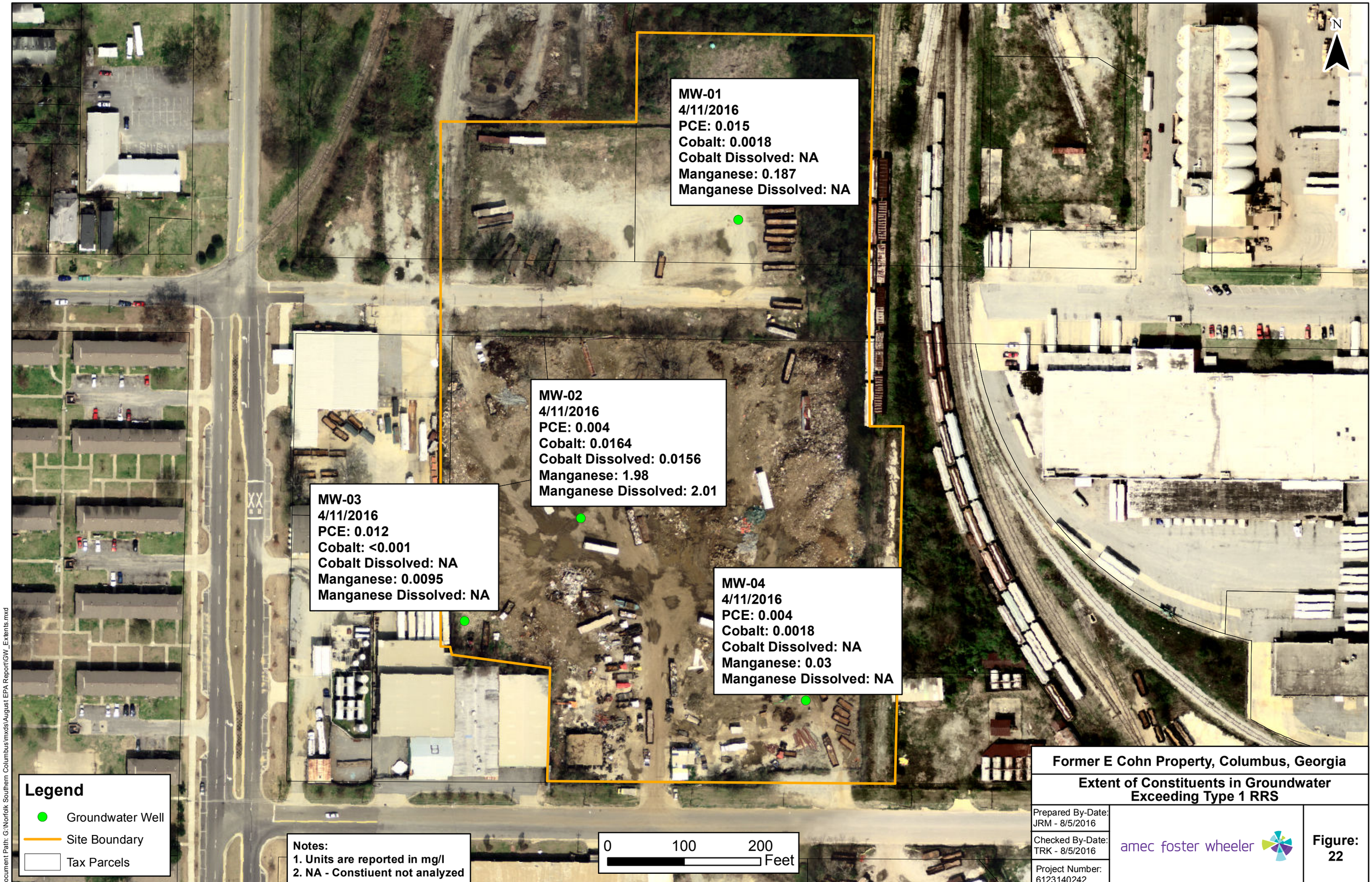
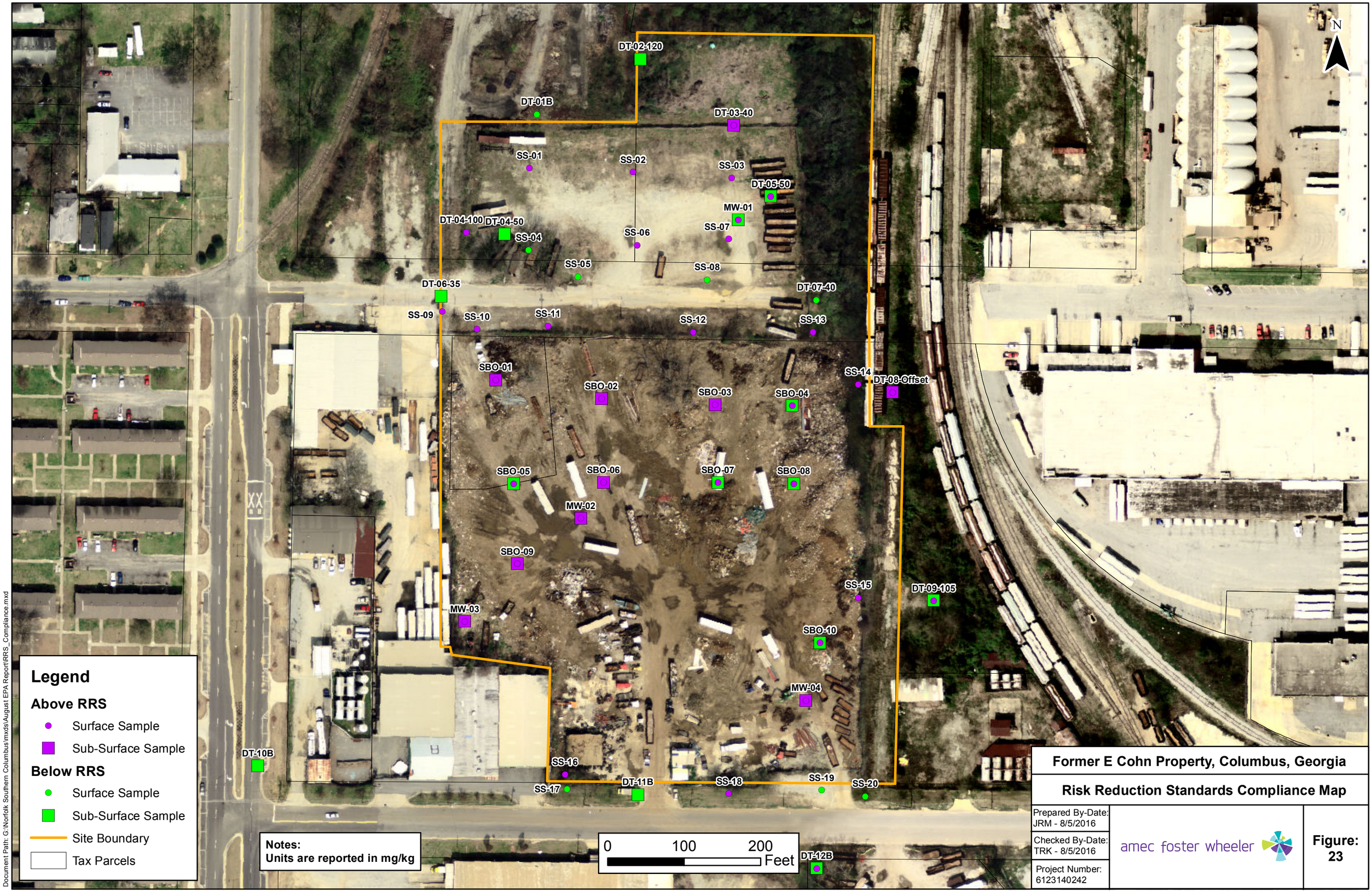

N
MW-01
4/11/2016
PCE: 0.015
Cobalt: 0.0018
Cobalt Dissolved: NA
Manganese: 0.187
Manganese Dissolved: NA
MW-02
4/11/2016
PCE: 0.004
Cobalt: 0.0164
Cobalt Dissolved: 0.0156
Manganese: 1.98
Manganese Dissolved: 2.01
MW-03
4/11/2016
PCE: 0.012
Cobalt: <0.001
Cobalt Dissolved: NA
Manganese: 0.0095
Manganese Dissolved: NA
MW-04
4/11/2016
PCE: 0.004
Cobalt: 0.0018
Cobalt Dissolved: NA
Manganese: 0.03
Manganese Dissolved: NA
Legend
Groundwater Well
Site Boundary
Tax Parcels
Notes:
1. Units are reported in mg/l
2. NA - Constiuent not analyzed
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Constituents in Groundwater Exceeding Type 1 RRS
Prepared By-Date: JRM - 8/5/2016
Checked By-Date: TRK - 8/5/2016
Project Number: 6123140242
amec foster wheeler
Figure: 22
Document Path: G:\Norfolk Southern Columbus\mxds\August EPA Report\GW_Extents.mxd



Former E Cohn Property, Columbus, Georgia

Risk Reduction Standards Compliance Map

Prepared By-Date: JRM - 8/5/2016

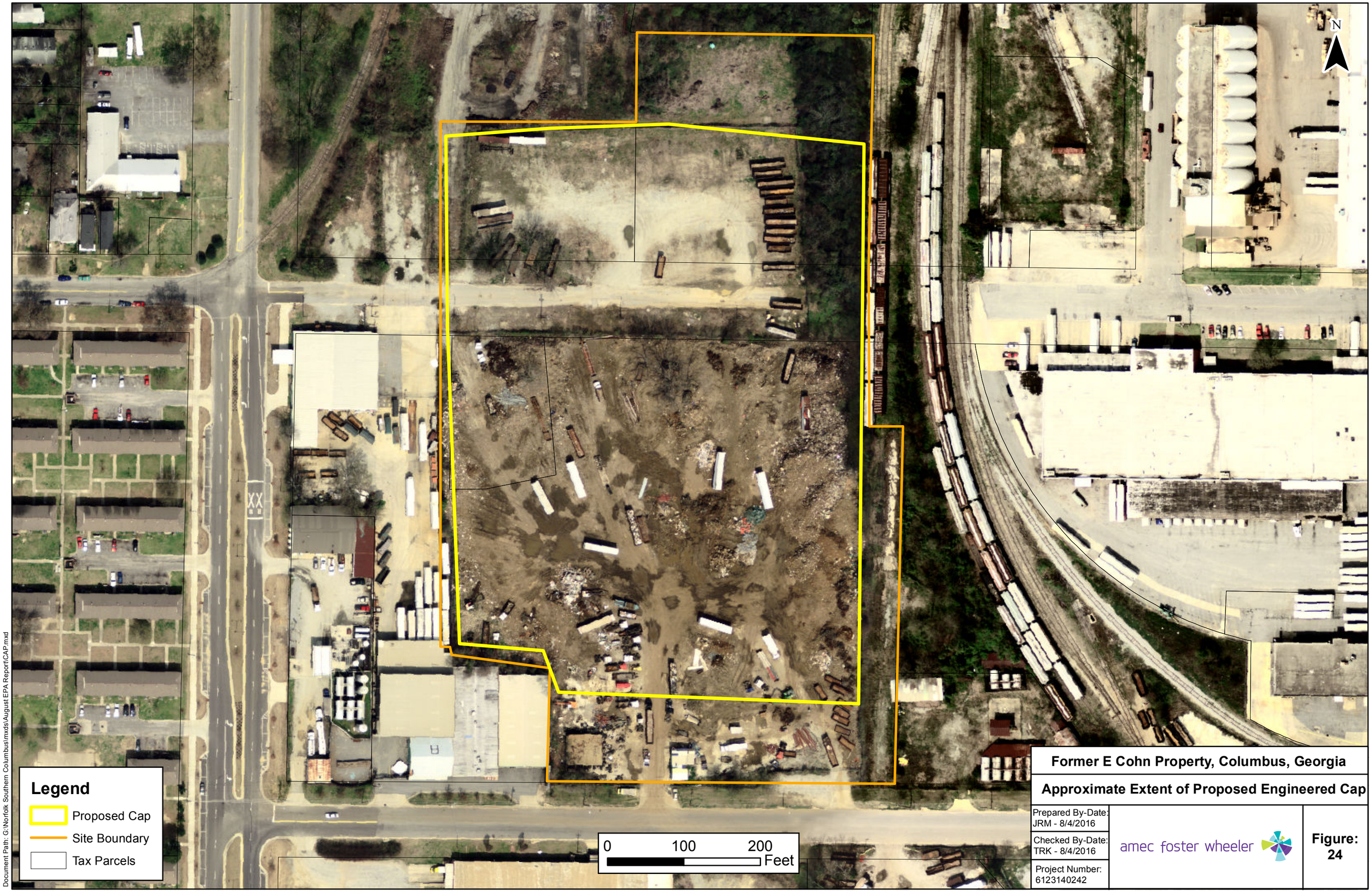
Checked By-Date: TRK - 8/5/2016

Project Number: 6123140242

amec foster wheeler

Figure: 23

Document Path: G:\Norfolk Southern Columbus\mxds\August EPA Report\RRS_Compliance.mxd



Former E Cohn Property, Columbus, Georgia

Approximate Extent of Proposed Engineered Cap

Prepared By-Date: JRM - 8/4/2016

Checked By-Date: TRK - 8/4/2016

Project Number: 6123140242

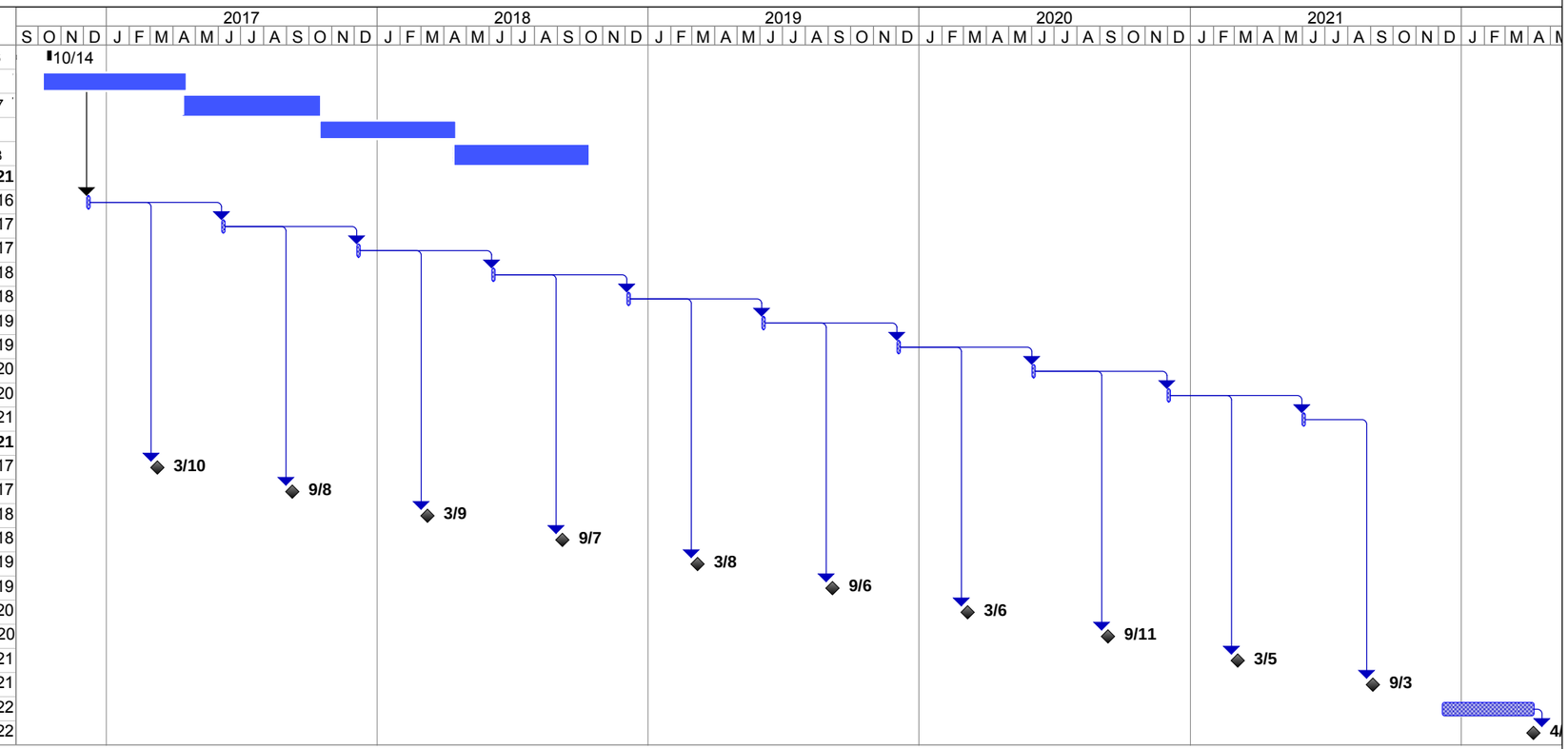
amec foster wheeler

Figure: 24

Document Path: G:\Norfolk Southern Columbus\mxds\August EPA Report\CAP.mxd

FIGURE 25 - SCHEDULE FOR VOLUNTARY INVESTIGATION AND REMEDIATION PLAN
FORMER E COHN PROPERTY

ID	Task Name	Start	Finish
1	EPD Approval of VRP Application	Fri 10/14/16	Fri 10/14/16
2	Human Health Risk Assessment, Delineation Activities	Fri 10/3/16	Fri 4/14/17
3	Delineation and Pre-Design Activities	Sat 4/15/17	Sat 10/14/17
4	Remedy Design and Contractor Procurement	Mon 10/16/17	Sat 4/14/18
5	Remedy Implementation	Mon 4/16/18	Mon 10/15/18
6	**Semi-Annual Sampling Event**	**Mon 12/5/16**	**Fri 6/4/21**
7	Semi-Annual Sampling Event 1	Mon 12/5/16	Fri 12/9/16
8	Semi-Annual Sampling Event 2	Mon 6/5/17	Fri 6/9/17
9	Semi-Annual Sampling Event 3	Mon 12/4/17	Fri 12/8/17
10	Semi-Annual Sampling Event 4	Mon 6/4/18	Fri 6/8/18
11	Semi-Annual Sampling Event 5	Mon 12/3/18	Fri 12/7/18
12	Semi-Annual Sampling Event 6	Mon 6/3/19	Fri 6/7/19
13	Semi-Annual Sampling Event 7	Mon 12/2/19	Fri 12/6/19
14	Semi-Annual Sampling Event 8	Mon 6/1/20	Fri 6/5/20
15	Semi-Annual Sampling Event 9	Mon 11/30/20	Fri 12/4/20
16	Semi-Annual Sampling Event 10	Mon 5/31/21	Fri 6/4/21
17	**Submit Semi-Annual Status Report**	**Fri 3/10/17**	**Fri 9/3/21**
18	Submit Semi-Annual Status Report 1	Fri 3/10/17	Fri 3/10/17
19	Submit Semi-Annual Status Report 2	Fri 9/8/17	Fri 9/8/17
20	Submit Semi-Annual Status Report 3	Fri 3/9/18	Fri 3/9/18
21	Submit Semi-Annual Status Report 4	Fri 9/7/18	Fri 9/7/18
22	Submit Semi-Annual Status Report 5	Fri 3/8/19	Fri 3/8/19
23	Submit Semi-Annual Status Report 6	Fri 9/6/19	Fri 9/6/19
24	Submit Semi-Annual Status Report 7	Fri 3/6/20	Fri 3/6/20
25	Submit Semi-Annual Status Report 8	Fri 9/11/20	Fri 9/11/20
26	Submit Semi-Annual Status Report 9	Fri 3/5/21	Fri 3/5/21
27	Submit Semi-Annual Status Report 10	Fri 9/3/21	Fri 9/3/21
28	Preparation and Submittal of Post-Remediation CSR	Mon 12/6/21	Fri 4/8/22
29	Implement Uniform Environmental Covenant	Fri 4/8/22	Fri 4/8/22



Norfolk Southern
Former E. Cohn Property
Columbus, Georgia

Task Milestone ◆

APPENDIX A

VRP APPLICATION CHECKLIST

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION

COMPANY NAME	Central of Georgia Railroad Company				
CONTACT PERSON/TITLE	Steven Aufdenkampe / Engineer, Environmental Remediation				
ADDRESS	1200 Peachtree Street NE, Box 13, Atlanta, GA 30309				
PHONE	404-582-5185	**FAX**	678-512-5508	**E-MAIL**	Steven.Aufdenkampe@nscorp.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP

NAME	Rhonda Quinn			**GA PE/PG NUMBER**	PG# 1031
COMPANY	Amec Foster Wheeler Environment & Infrastructure, Inc.				
ADDRESS	1075 Big Shanty Road NW, Kennesaw, GA 30144				
PHONE	770-421-3516	**FAX**	770-421-3486	**E-MAIL**	rhonda.quinn@amecfw.com

APPLICANT'S CERTIFICATION

In order to be considered a qualifying property for the VRP:

(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
ORMER)Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
(A) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
(B) A facility required to have a permit under Code Section 12-8-66.
(3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or similar authorization from the United States Environmental Protection Agency.
(4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by the director pursuant to Code Section 12-8-94 or Code Section 12-13-6.

In order to be considered a participant under the VRP:
(1) The participant must be the property owner of the voluntary remediation property or have express permission to enter another's property to perform corrective action.
(2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify that this property is eligible for the Voluntary Remediation Program (VRP) as defined in Code Section 12-8-105 and I am eligible as a participant as defined in Code Section 12-8-106.

APPLICANT'S SIGNATURE	R.P. Russell		
APPLICANT'S NAME/TITLE (PRINT)	Richard P. Russell System Director Env. Protection	**DATE**	9/8/16

QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form)			
HAZARDOUS SITE INVENTORY INFORMATION (if applicable)			
HSI Number	10933	Date HSI Site listed	09/4/2015
HSI Facility Name	E Cohn Property (Former)	NAICS CODE	531190
PROPERTY INFORMATION			
TAX PARCEL ID	020 008 003 and 020 008 004	PROPERTY SIZE (ACRES)	10.71
PROPERTY ADDRESS	715 5th Street		
CITY	Columbus	COUNTY	Muscogee
STATE	Georgia	ZIPCODE	31906
LATITUDE (decimal format)	32.456206	LONGITUDE (decimal format)	-84.983123
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Central of Georgia Railroad Company	PHONE #	404-582-5185
MAILING ADDRESS	1200 Peachtree Street NE, Box 13		
CITY	Atlanta	STATE/ZIPCODE	GA 30309

ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES. (PLEASE LIST CHECK DATE AND CHECK NUMBER IN COLUMN TITLED "LOCATION IN VRP." PLEASE DO NOT INCLUDE A SCANNED COPY OF CHECK IN ELECTRONIC COPY OF APPLICATION.)	**Check# 9172354 Date:8/12/2016**	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	**To be provided later**	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	**To be provided later**	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	**Attached to Application**	
5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and	**Figure 3 CSM Figures 4 through 22** **Sections 4.1 and 4.2 embedded tables provide delineation standards**	

	after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule. The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:	**Section 5 describes Remediation Plan. Figure 24 shows the extent of the cap. Figure 25 shows milestone schedule**	
5.a.	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;		
5.b.	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;		
5.c.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and		
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.		
6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances. Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." Rhonda N. Quinn #1031 — Printed Name and GA PE/PG Number 9-12-2016 — Date Signature and Stamp		

ADDITIONAL QUALIFYING PROPERTIES (COPY THIS PAGE AS NEEDED)

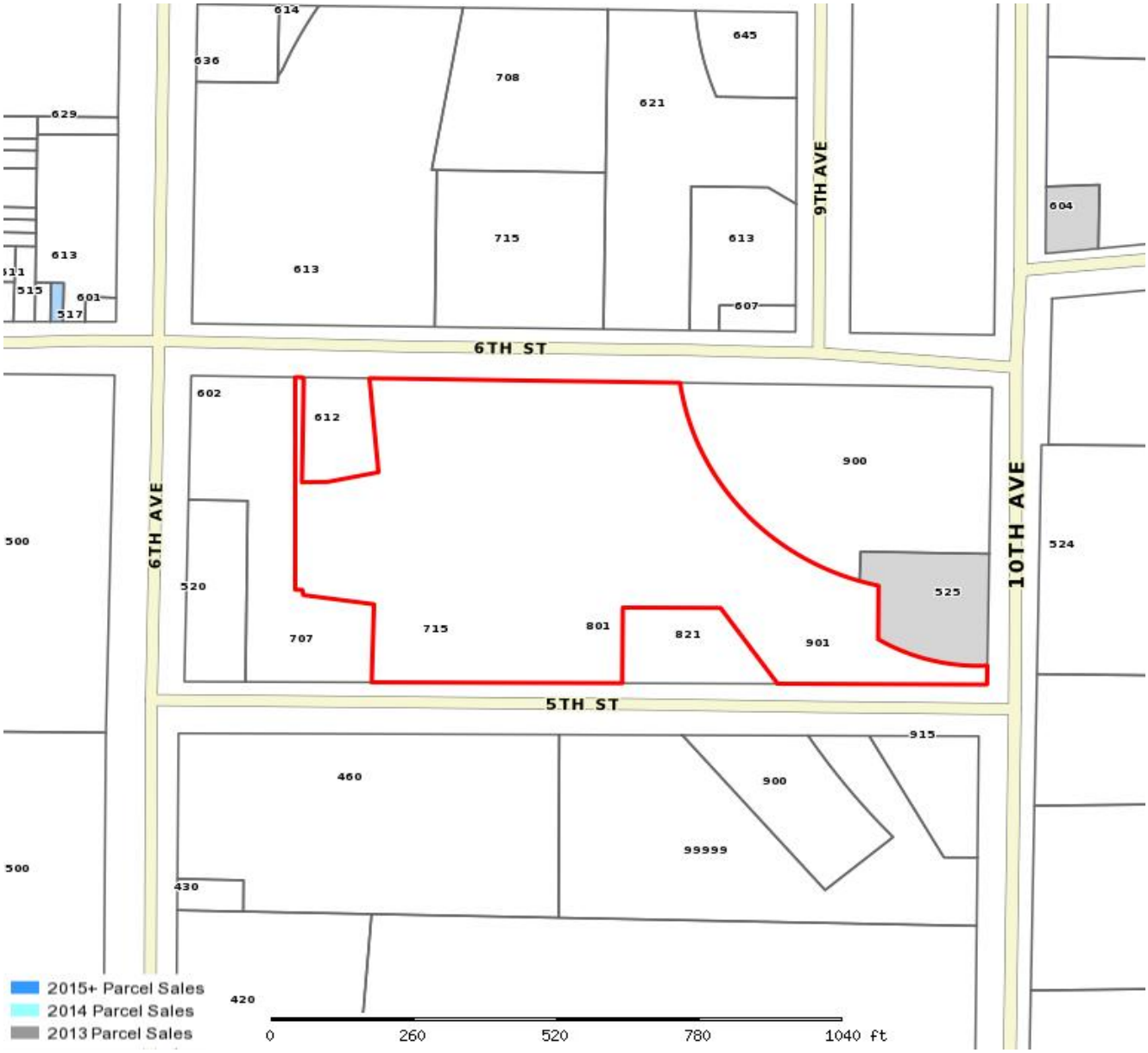
PROPERTY INFORMATION			
TAX PARCEL ID	020 004 001	PROPERTY SIZE (ACRES)	
PROPERTY ADDRESS			
CITY	Columbus	COUNTY	Muscogee
STATE	Georgia	ZIPCODE	31906
LATITUDE (decimal format)	32.457358	LONGITUDE (decimal format)	-84.983691
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Central of Georgia Railroad Company	PHONE #	404-582-5185
MAILING ADDRESS	1200 Peachtree Street NE Box 13		
CITY	Atlanta	STATE/ZIPCODE	30309

PROPERTY INFORMATION			
TAX PARCEL ID	020 004 002	PROPERTY SIZE (ACRES)	
PROPERTY ADDRESS			
CITY	Columbus	COUNTY	Muscogee
STATE	Georgia	ZIPCODE	31906
LATITUDE (decimal format)	32.457463	LONGITUDE (decimal format)	-84.982851
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Central of Georgia Railroad Company	PHONE #	404-582-5185
MAILING ADDRESS	1200 Peachtree Street NE Box 13		
CITY	Atlanta	STATE/ZIPCODE	30309

PROPERTY INFORMATION			
TAX PARCEL ID		PROPERTY SIZE (ACRES)	
PROPERTY ADDRESS			
CITY		COUNTY	
STATE		ZIPCODE	
LATITUDE (decimal format)		LONGITUDE (decimal format)	
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)		PHONE #	
MAILING ADDRESS			
CITY		STATE/ZIPCODE	

APPENDIX B

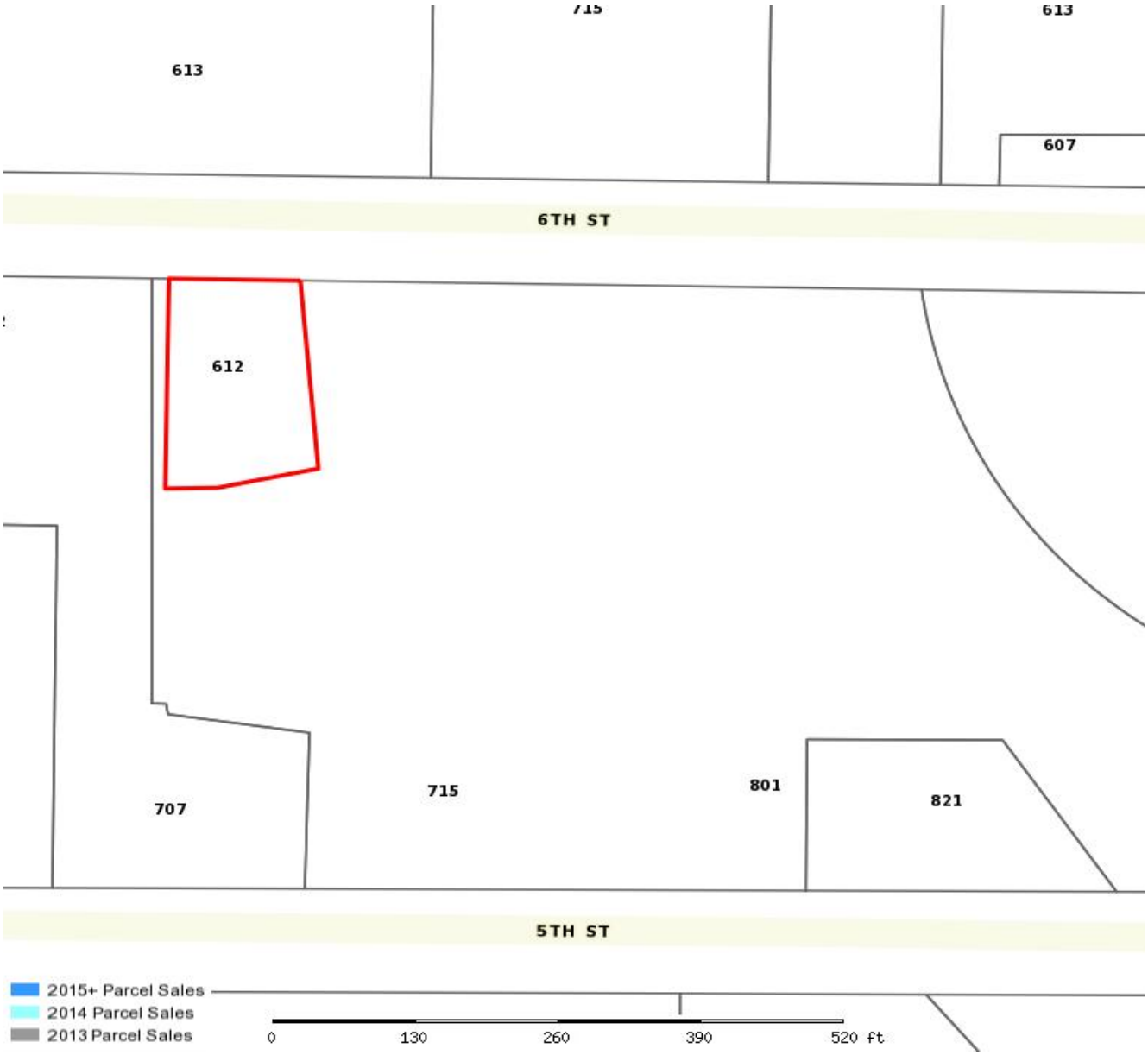
PARCEL MAPS



Muscogee County Assessor			
Parcel: 020 008 003 Acres:			
Name:		Land Value	0
Site:		Building Value	0
Sale:		Misc Value	0
Mail:		Total Value:	0

The Muscogee County Assessor's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. PLEASE NOTE THAT THE PROPERTY APPRAISER MAPS ARE FOR ASSESSMENT PURPOSES ONLY NEITHER MUSCOGEE COUNTY NOR ITS EMPLOYEES ASSUME RESPONSIBILITY FOR ERRORS OR OMISSIONS ---THIS IS NOT A SURVEY---

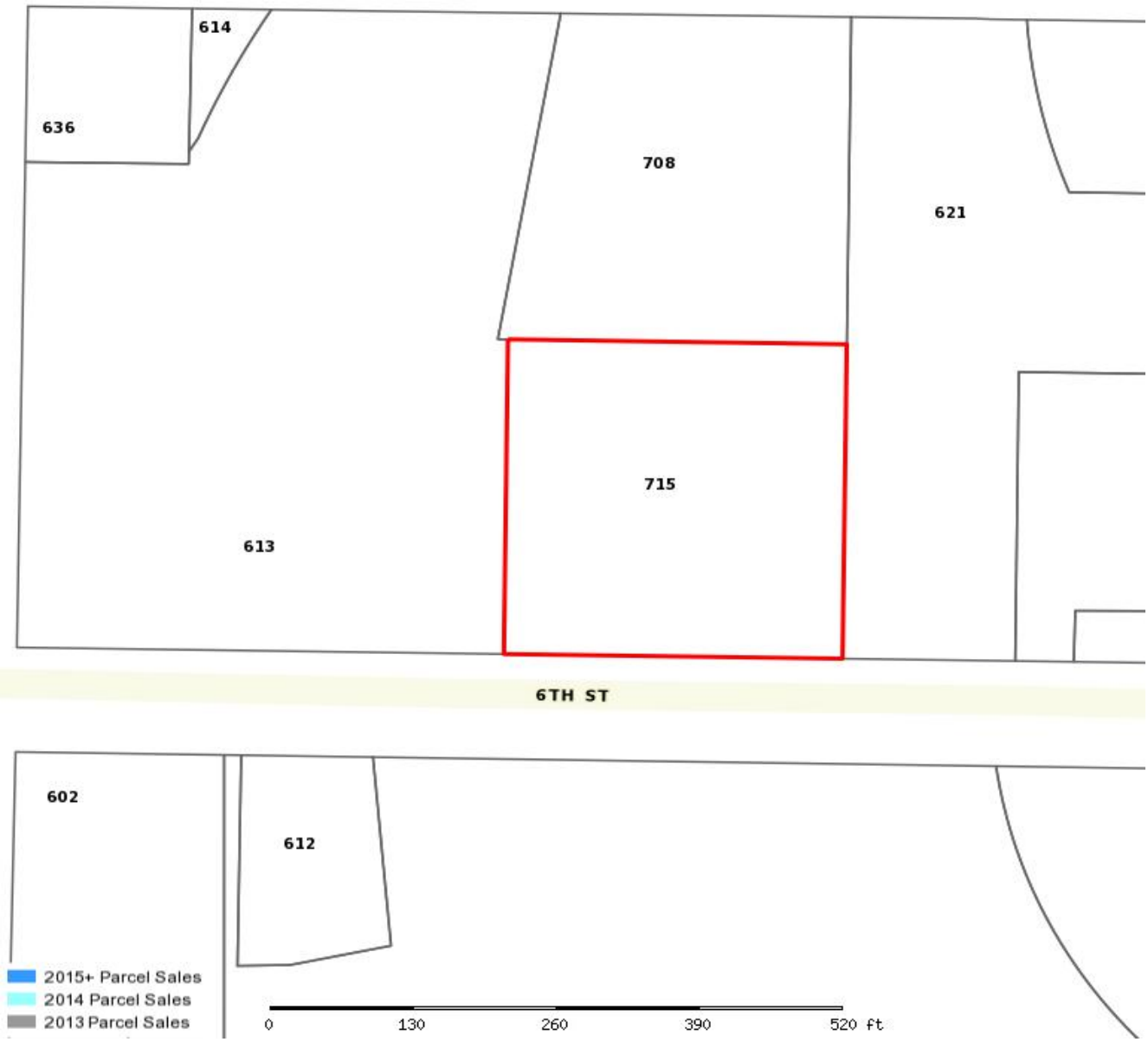
Date printed: 08/03/16 : 16:13:55



Muscogee County Assessor			
Parcel: 020 008 004 Acres:			
Name:		Land Value	0
Site:		Building Value	0
Sale:		Misc Value	0
Mail:		Total Value:	0

The Muscogee County Assessor's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. PLEASE NOTE THAT THE PROPERTY APPRAISER MAPS ARE FOR ASSESSMENT PURPOSES ONLY NEITHER MUSCOGEE COUNTY NOR ITS EMPLOYEES ASSUME RESPONSIBILITY FOR ERRORS OR OMISSIONS ---THIS IS NOT A SURVEY---

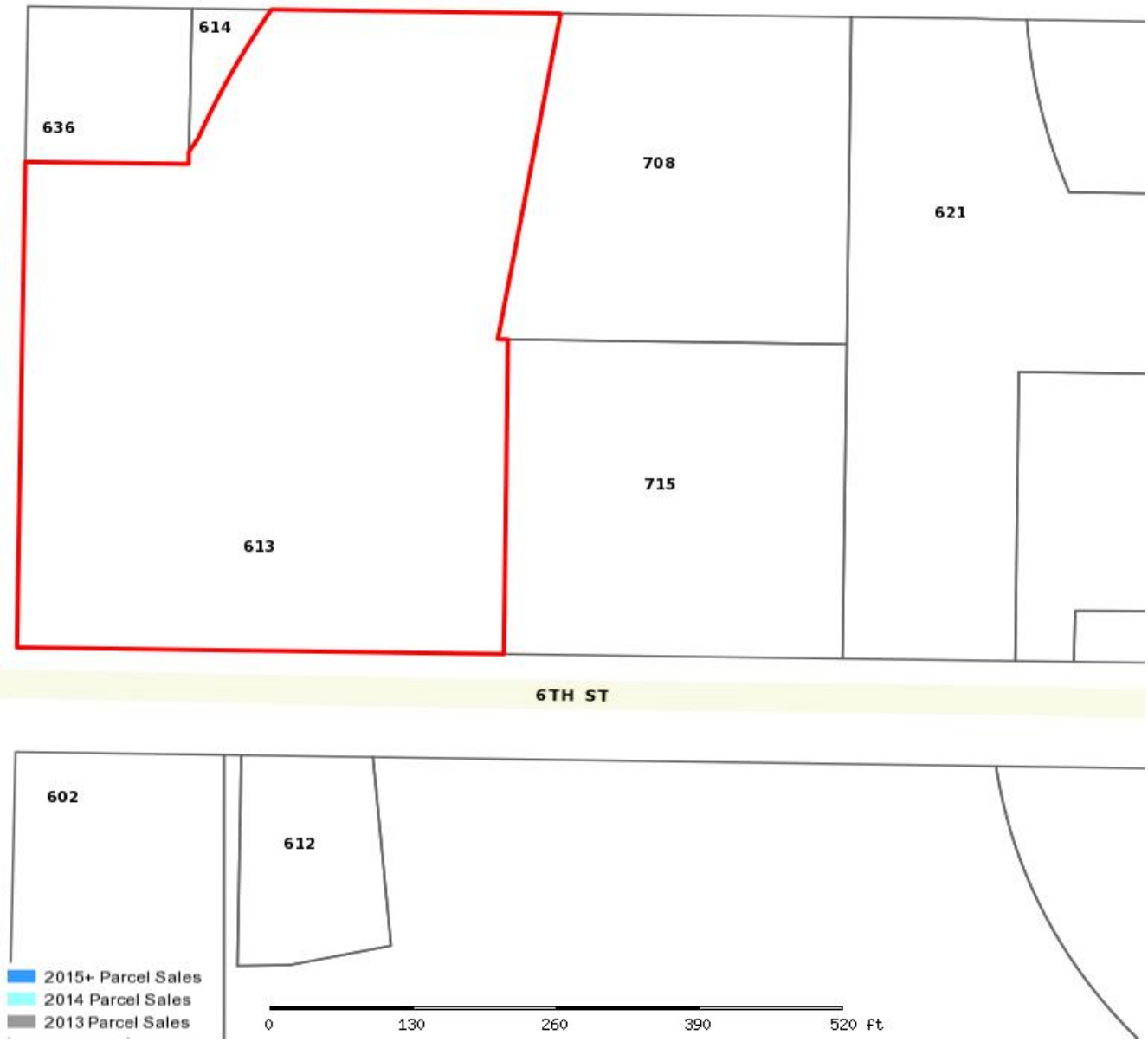
Date printed: 08/03/16 : 16:22:14



Muscogee County Assessor			
Parcel: 020 004 002 Acres:			
Name:		Land Value	0
Site:		Building Value	0
Sale:		Misc Value	0
Mail:		Total Value:	0

The Muscogee County Assessor's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. PLEASE NOTE THAT THE PROPERTY APPRAISER MAPS ARE FOR ASSESSMENT PURPOSES ONLY NEITHER MUSCOGEE COUNTY NOR ITS EMPLOYEES ASSUME RESPONSIBILITY FOR ERRORS OR OMISSIONS ---THIS IS NOT A SURVEY---

Date printed: 08/03/16 : 16:23:33

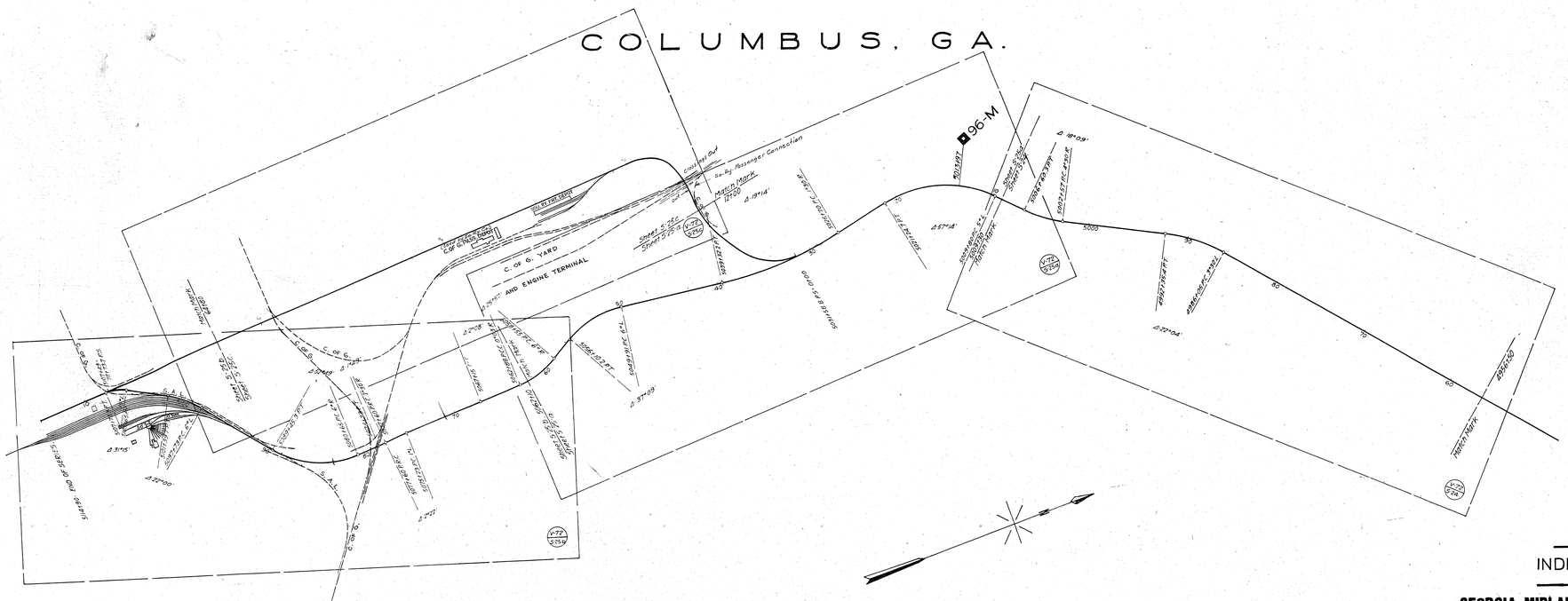


Muscogee County Assessor			
Parcel: 020 004 001 Acres:			
Name:		Land Value	0
Site:		Building Value	0
Sale:		Misc Value	0
Mail:		Total Value:	0

The Muscogee County Assessor's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. PLEASE NOTE THAT THE PROPERTY APPRAISER MAPS ARE FOR ASSESSMENT PURPOSES ONLY NEITHER MUSCOGEE COUNTY NOR ITS EMPLOYEES ASSUME RESPONSIBILITY FOR ERRORS OR OMISSIONS ---THIS IS NOT A SURVEY---

Date printed: 08/03/16 : 16:24:25

MUSCOGEE COUNTY, GA.



INDEX MAP

GEORGIA MIDLAND RAILWAY COMPANY

Operated by the

SOUTHERN RAILWAY COMPANY

COLUMBUS DIVISION

STATION 4956+50 TO STATION 5114+90

SCALE 1 IN. = 400 FT DECEMBER 31, 1927.

Office of Special Engineer
Washington, D.C.

V-72
25.

STATIONING REFERS TO I.C.C. INVENTORY CHAINAGE - 1916

Tracks corrected to Dec. 31, 1933.

02248

A 2248

File No. 4

G. M. & G. R. R. Co.

REAL ESTATE

City of Columbus
to } Ordinance
G. M. & G. R. R. Co.

(Also copy deed from Commrs. of Commons Columbus to Trs. of Simpson Chapel M. E. Church, Oct. 9, 1920.) Book 34 Folio 19)

Dated (6) Jan. 8, 1886

Consideration —

County and State Muscogee Co., Ga.

Recorded–Book Z Page 44

Remarks

B-18 B-22
(See B-11 & 14)

The Original Document enclosed within will not be taken from the files of the office, except in cases where its use is deemed indispensable.

Certified copies will be made and furnished parties interested.

AMENDING ACT AS TO TITLE OF COMMONS IN COLUMBUS.

Section 809 - Commissioners May Permit Railroads to Sell or Lease Part of Commons. Disposition of Proceeds. Extension of Streets Through. (Acts of 1887, Page 613.)

An Act to amend an Act, entitled, an Act to vest the title to the Commons of the City of Columbus, in Commissioners, to sell the same, and apply the proceeds to certain purposes, approved February 18, 1873, so as to empower said Commissioners at the request of the Mayor and Council of the City of Columbus, to grant to railroad companies permission to sell or lease commons lands set apart, or that may be hereafter set apart, to them for railroad purposes, and to prescribe the mode and manner of said sale or lease, and to provide for the disposition of the proceeds arising therefrom, and for other purposes.

1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF GEORGIA, That from and after the passage of this Act, the Act entitled, an Act to vest the title to the Commons of the City of Columbus, in Commissioners, to sell the same, and apply the proceeds to certain purposes, approved February 18, 1873, be amended as follows: "That said Commissioners of Commons be authorized and empowered upon the request of the Mayor and Council of the City of Columbus, to grant to any railroad company holding commons lands for railroad purposes, or to whom the said Commissioners of Commons, or the said Mayor and Council, may have, or hereafter may set apart such commons lands for railroad purposes, the right, privilege and authority to sell, or lease any portion of said lands so held or set apart, and the said lands so sold or leased, may be conveyed by said railroad companies, and the title thereto be vested in the purchasers when sold, and the use and occupation in the lessees, when leased; provided, the said railroad companies or either of them will and shall pay into the Treasury of the City of Columbus, one-half of the purchase money received from the lands so sold, or one-half of each year's rental for the lease of any of said lands, during the entire period of such lease; and provided, also, that whenever an extension of any one of the public streets of the City of Columbus, if prolonged to the corporate line, would be located through or on any land heretofore set aside for railroad purposes, or which may hereafter be so set aside, the title to so much and such part of said land as is necessary for the extension of said street of same width as the original street, shall not vest in the railroad company, for whose use the same is set aside, nor shall that part of such land as is necessary for such extension of any one of said streets ever be sold or leased.

2. BE IT FURTHER ENACTED, That all laws and parts of laws in conflict with this Act be, and the same are hereby repealed.

Approved: October 24, 1887.

Atlanta, February 24th, 1922.

24231.

Mr. Mauldin:

Yours 16th, without file relative letter from Secretary of Commissioners of Commons, Columbus, Georgia,

We handled this matter with Messrs. Battle and Arnold, Asst. Division Counsel, Columbus, and they have furnished us with attached copy of provisions contained in Code Section 809, of the City Code of Columbus.

Further investigation develops that the property in question is being occupied by the Gulf Refining Company, S. P. Wright Coal and Wood Company, Southern Bell Telephone & Telegraph Company and Chattahoochee Valley Fair.

It has been customary for the tenants to pay the City of Columbus the same amount of rental as is paid the Railway Company. City authorities make this collection direct from tenants.

(S) C. Chandler,

Superintendent.

Atlanta, February 24th, 1922.

24231.

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We handled this matter with Messrs. Battle and Arnold, Asst. Division Counsel, Columbus, and they have furnished us with attached copy of provisions contained in Code Section 809, of the City Code of Columbus.

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It has been customary for the tenants to pay the City of Columbus the same amount of rental as is paid the Railway Company. City authorities make this collection direct from tenants.

(S) C. Chandler,

Superintendent.

(4)

SO. RY. CO.
AUG
19
1936
Asst. Secy.

Washington, D.C., August 18, 1936. M
147-89

SUBJECT: Property occupied by the Simpson M.E. Church (colored)
Columbus, Ga.

Mr. Mauldin:

Herewith copy of deed from the Commissioners of Commons, Columbus, Ga., to Trustees of Simpson Chapel M.E. Church of Columbus, Ga., dated October 9, 1920, recorded in Deed Book 34, Folio 19, October 12, 1920, conveying to the Trustees of the Church a lot in the northwest corner of Block 45 at the intersection of 7th Street and Sixth Avenue.

The Southern Railway has for many years claimed ownership of this property by virtue of resolution and grant from the City of Columbus to the GM&G Railroad dated January 8, 1886. However, our Law Department is of the opinion that the Railroad Company has no rights in the premises occupied by the Simpson M.E. Church and conveyed to the Trustees of the Church by deed dated October 9, 1920, copy of which is attached. I suggest you file this copy of deed with the grant from the City to the GM&G Railroad dated January 8, 1886.

B.H.

Cy: Mr. Tyrrell:

Referring to yours of August 13, file 20427.

You will note our Law Department is of the opinion that the Railway Company has no rights in the premises occupied by the church. Our valuation map has been revised. We should not accept an assessment from the City for the cost of paving Sixth Avenue fronting the church property.

B.H.

13368

RE: (a) Proposed sale of 1.58 acres Southern Railway property in Columbus, Georgia, to West Pepperell; consideration $27,000; and

(b) Proposed sale of 0.17 of an acre of Southern Railway Company property to the City of Columbus, Georgia; consideration $2,070.

TITLE INFORMATION:

1. ACQUISITION: Parcel 8, V72/S25b is part of the "commons property" acquired by resolution and Grant of January 8, 1886; Parcel 10 was acquired as a license to operate a railroad in a street. Sale in (a) involves land in both parcels; sale in (b) involves only parcel 8.

2. REMARKS: The part of the property lying in Parcel 8 is held in fee but 1/2 of any of the proceeds must be paid to the City of Columbus. We have no marketable title to Parcel 10 (Parcel 10 is the part which falls within the bounds of 7th Ave.)

3. ACQUISITION FILE: RE&C

ARCHIVES
Title Checked by

DATE 2-4-75

G. L. Wenrich

Commissioners of Commons

to

A. D. Drane, Joseph Birt, Henry Warren, Haywood Lafayett, and W. L. Lovett, Trustees of Simpson Chapel Methodist Episcopal Church of Columbus, Georgia:

Georgia, Muscogee County.

Whereas, the Commissioners of Commons of the City of Columbus, Georgia, by virtue of the power and authority granted to them by an Act of the Legislature of the State of Georgia approved February 18th, 1873, and in accordance with the action of said board of commissions of commons confirmed at a regular meeting of said board on 10th day of February, 1887, did on the 15th day of February in said year give, grant, and convey to Alexander Toles, James Washington, R. D. Brooks, R. T. Kent, Jackson T. Thompson, John J. Williams, John Wood, Moses Thomas, and Philip Mattox, Trustees of Simpson Chapel Methodist Episcopal Church of Columbus, Georgia, and their successors in trust, the land hereinafter described, so long as the same is held and used by them for church purposes, and with the covenant that no title to said land shall vest in said trustees unless a bona fide erection of a church edifice shall be begun within twelve months from delivery of said deed.

And Whereas, under an Act of the Legislature of the State of Georgia approved Aug. 16, 1920, the commissioners of Commons of City of Columbus, Georgia, are authorized to execute a deed without restrictions to Simpson Chapel Methodist Episcopal Church, said (Act) being as follows, to-wit:

"Be it enacted by the General Assembly of Georgia, and it is hereby enacted by authority of the same, that the Commons Commission ~~xxxxxx~~ of the City of Columbus, Georgia, is authorized to execute a deed without restrictions to Simpson Chapel Methodist Episcopal Church at the corner of Seventh Street and Sixth Avenue known and distinguished in the plan of said city commons as lots Nos. two (2) and three (3) in block No. Forty-five (45) containing one-half (1/2) acres in the City of Columbus and for other purposes."

Now, Therefore, This indenture made this 9th day of October, in the year of our Lord one thousand nine hundred and twenty, between the Commissioners of Commons of the City of Columbus, Georgia, of the one part, and A. D. Drane, Joseph Birt, Henry Warren, Haywood Lafeyett, and W. L. Lovett, Trustees of Simpson Chapel Methodist Episcopal Church of Columbus, Georgia, of the other part,

Witnesseth: That the said Commissioners of Commons by virtue of the power and authority granted to them by an Act of the Legislature of the State of Georgia, approved August 16th, 1920, and in accordance with action of the said Board of Commissions of Commons confirmed at a regular meeting of said board on the 7th day of October, 1920, the said Commissioners of Commons have given, granted and set apart, and by these presents give, grant and set apart upon the aforesaid trustees of Simpson Chapel Methodist Episcopal Church and their successors in trust.

All that parcel of the Commons of the City of Columbus, Georgia known and distinguished in the plan of said city commons as lots numbers two (2) and three (3) in block number forty-five (45) on the corner of Seventh Street and Sixth Avenue (formerly southeast corner of Few and Mercer Streets) in said city, and containing one-quarter of an acre each, a one-half acre altogether, the same being one hundred forty-seven (147) feet and ten (10) inches square.

To have and to hold said granted premises to the aforesaid trustees of said Simpson Chapel Methodist Episcopal Church, and their successors in trust, in fee simple.

And in testimony whereof the said Commissioners of Commons by their President and Secretary have hereto set their hands and seals this the 9th day of October, 1920.

Henry R. Goetchius (L.S.)
President

Attest: L. H. Chappell (L.S.)
Secretary.

(Corporate Seal)

Signed, sealed and delivered
in the presence of

H. H. Swift
L. C. Slade,
Notary Public, Muscogee County, Ga. (SEAL)

(Stamped 50¢ and cancelled).

This deed was filed Oct. 11th, recorded Oct. 12, 1920, in Deed Book 34, page 19. E. H. Johnson, Clerk.

GLW:dl
Washington, D.C., February 4, 1975
13368

RE: (a) Proposed sale of 1.58 acres of Southern Railway Company property to West Point Pepperell at Columbus, Muscogee County, Georgia, consideration $27,000

(b) Proposed sale of 0.17 of an acre of Southern Railway Company property to the City of Columbus, Georgia, consideration $2,070.

MR. W. M. WESTERMAN:

Yours of November 29, 1974:

Herewith Forms 623 covering above transactions, approved by C&C. Conveyance should be by quitclaim deed only. If tracks are not removed prior to sale, deed should contain reservation of right to remove tracks, ties, ballast and hardware.

Our check of title confirms that the property involved is commons property and that 1/2 of proceeds will be paid to City, as noted by you on Form 623. Please advise this department of any encroachments, crossings, etc., affecting the subject property, as well as any outstanding agreements covering such encroachments, crossings, etc., or leases or licenses affecting such property.

Copies to -

H. Seidenman

MR. D. S. FRANYO:
MR. R. A. KELSO:

H. Seidenman

MR. M. M. DAVENPORT: (4 and B-9)

Please file a copy of title report with title documents 4 and B-9.

H. Seidenman

RECEIVED
FEB 11 1975
OFFICE OF SECRETARY

Resolution

donating certain portions of the Commons to the Georgia Midland & Gulf R.R.d, adopted by the board of Commissioners of Commons Jany 8th 1886 -

"Resolved, that this board does hereby, at the request of the Mayor & Council of the City of Columbus, reserve or set aside for use of the Georgia Midland & Gulf Railroad the following described lands on south east commons, to wit: Blocks Forty five (45), Forty six (46), Fifty one (51), Fifty two (52), and such parts of Fifty three (53), and Fifty four (54), as may be north of the northern boundary line of the colored cemetery when extended westward to Mercer street, together with the portions of the streets and avenue lying and being between said blocks and parts of blocks. Said reservation or grant to be subject to any prior grants made by this Board, and on condition that said Railroad is built within five years, unless the time for building shall be hereafter extended by the Mayor & Council of the City of Columbus, and on the further condition that said Railroad shall be liable to the same restrictions, limitations and requirements as were imposed by the Mayor & Council,

or other railroads, to which grants of common for railroad purposes have heretofore been made.

Adopted."

+ + +

Columbus Ga May 1 1886.

I hereby certify that the foregoing is a true extract from the minutes of the Board of Commissioners of Common of Jany 8 1886.

W. M. Moore, Secty

Resolution Commission
Commissioners. Donating
depot grounds —

4 (14)

To

The G M & G R R Co

Muscogee Co, Ga

GEORGIA,

MUSCOGEE COUNTY

CLERK'S OFFICE SUPERIOR

COURT OF SAID COUNTY

RECORDED IN Deed

BOOK 93 FOLIO 44

June 14" 188_6

Geo Y Pond Clerk,

S. C. M. C., GA.

"Council Chamber —
Columbus Ga. July 6' 1886.

By Ald. Hatcher - 'Whereas, by an act approved [illegible] the Commissioners of Common at the request of the Mayor & Council of the City of Columbus are empowered to set aside and reserve so much of the Common of the City of Columbus as they may deem proper for railroad purposes, and

Whereas the survey of the Georgia Midland & Gulf R.R. has been completed, and said company desire a portion of said Common set aside and reserved for their use, therefore be it

Resolved, by the Mayor and Council of the City of Columbus, that the Board of Commissioners of Commons of the City of Columbus be, and they are hereby requested to reserve, set aside and grant to the Georgia Midland & Gulf R.R.Co., to be used for railroad purposes, the following lands on the south Common, to wit: Block Forty five (45), Forty six (46), Forty seven (47), Forty eight (48), Forty nine (49), Fifty (50), Fifty one (51), Fifty two (52), Fifty three (53), and all of Fifty four (54), Fifty five (55), Fifty six (56), not occupied at this date for cemetery purposes. The said road to be built in five years time.'

Adopted."

Council Chamber –
Columbus Ga. May 1 1886.

I hereby certify that the foregoing is a true extract from the minutes of Council of date mentioned.

R. H. Moore Clerk Council

APPENDIX C

GEOPHYSICAL SURVEY

June 5, 2015

Steve Aufdenkampe
Engineer - Environmental Remediation
Norfolk Southern Corporation
1200 Peachtree St., NE – Box 13
Atlanta, GA 30309-0013

Subject: Geophysical Investigation Report
Subsurface Geophysical Site Characterization
E. Cohn Property – 715 5th Street, Columbus, GA
Amec Foster Wheeler Project Number: 6123140242.06

Mr. Aufdenkampe:

Amec Foster Wheeler Environment & Infrastructure (Amec Foster Wheeler) has prepared this surface geophysical investigation report on behalf of Norfolk Southern Corporation (NS) for the work conducted at the E. Cohn Property project area located at 715 5th Street, Columbus, GA (Site) from May 5-6, 2015.

EXECUTIVE SUMMARY

An integrated non-intrusive geophysical investigation was performed from May 5-6, 2015 and included the use of time domain electromagnetic (TDEM) metal detection and ground-penetrating radar (GPR) techniques. These methods were used to assist in identifying and delineation of areas containing subsurface metallic debris, uncontrolled fill material, utilities, or other subsurface features that would require additional investigation prior to the onset of proposed intrusive subsurface investigation activities at the Site. These activities include the installation of groundwater monitoring wells for furthered site characterization. The area of investigation included a 7 acre parcel located at the above-referenced site that operated previously as a metal recycling facility under a NS lease.

Based on the interpreted EM data (Figure 1) and in-field interpretation of GPR profile data (Figure 2), there are several large anomalies within the investigation area that may affect the intrusive portion of the proposed program. These are highlighted by light green to pink shading and include both surface and interpreted subsurface metallic debris and surface interference (e.g. steel-reinforced concrete, buildings). Anomalies are interpreted to be primarily associated with metallic debris based on observations made during data collection and information gathered during test pitting activities conducted previously by Amec Foster Wheeler and identified by black diamonds

Amec Foster Wheeler Environment & Infrastructure
800 Marquette Avenue, Suite 1200
Minneapolis, Minnesota 55402
USA
Tel (612) 332-8326
Fax (612) 332-2423
www.amecfosterwheeler.com

on Figure 1. Anomalies attributed to sources of above ground metallic interference are labeled accordingly on Figure 1.

This report provides a summary of scope of work, geophysical survey systems, data collection methods, survey results, conclusions and recommendations as interpreted from the geophysical data collected and other information obtained at the Site.

SCOPE OF WORK

The work scope included conducting an integrated TDEM and GPR geophysical investigation to meet the outlined project objectives. Amec Foster Wheeler utilized the Geonics® EM61 MK2 high resolution metal detection system (EM-61) and a Geophysical Survey Systems, Inc. SIR-3000 GPR system to identify and delineate areas containing subsurface debris, uncontrolled fill material or other subsurface anomalies that would require additional investigation. The surveyed areas contained grass and gravel-covered surfaces with additional areas covered by asphalt and concrete paving associated with historical site usage.

GEOPHYSICAL SYSTEMS

Geonics EM61 MK2A

The EM-61 is a high resolution metal detection geophysical system designed for the detection of both ferrous and nonferrous metal objects. The system consists of two (1-meter x 0.5-meter) rectangular coils separated vertically by 0.3 meter. A transmitter/receiver is located in the bottom coil (0.42 meter above the ground) with a differential coil located directly above (0.74 m above the ground). The system generates a pulsed electromagnetic (EM) field that is rapidly turned off. Between pulses, a secondary field is created that induces eddy currents in the ground and in nearby metallic objects. During this time, the secondary magnetic field is measured (in millivolts) by the receiver coil at three separate time gates, or channels (channel 1, 2 and 3), and also by the differential coil. Low measured relative millivolt responses (background values) are indicative of little or no metal present while higher millivolt responses indicate the presence of metallic objects within the detection depth of the instrument. The depth of detection and response intensity is dependent on the size and orientation of the metallic object. It is expected that a standard 55 gallon drum can be detected by the EM-61 to approximately 10 feet below ground surface under ideal conditions. Although the EM-61 can be operated near sources of cultural interference (i.e. fences, buildings, and power lines), these features may result in a measured response if within the sensing distance of the instrument. If these features are present, they are noted by the field team to differentiate known surface features from the detection of subsurface features of interest.

A Hemisphere A325 GNSS (Global Navigation Satellite System) Smart Antenna was used to provide sub meter accuracy for data collection. The GPS was connected to the Juniper Systems, Inc., TK6000® data logger, providing simultaneous geospatial location with the measured EM-61 data. The EM-61 was set up and calibrated according to manufacturer specifications. Calibration included the selection of an optimum location at the Site with minimal interference and estimated background soil conditions. Due to the presence of surface debris at the site, a calibration location was selected south of 5th Street and west of the Site. During the field geophysical survey, data were collected along lines with an average lateral spacing of 5 feet. Following collection, EM-61 data were first corrected for time latency between the instrument reading, GPS position, and the time the measurement is recorded by the data logger. The latency-corrected data was then contoured using Geosoft Oasis montaj and is presented in Figure 1.

Ground-Penetrating Radar

GPR is a non-destructive, non-invasive geophysical method for subsurface imaging of the subsurface and is often capable for the location of buried features. GPR can detect a variety of metallic, non-metallic, natural, and manmade targets including underground utilities, UST's, rebar, sinkholes, voids and changes in geology.

GPR emits a series of high-frequency, high amplitude EM pulses (radio waves) from a transmitting antenna into the ground. When the EM pulses encounter materials that differ in electrical properties, a portion of the energy is reflected back to a receiving element (antenna) at the surface. These reflections are collected as digital images and fed to a portable computer that is displayed in real-time as a continuous "picture" or profile of the subsurface. This visual profile can be used to help aid in locating subsurface features.

For greater resolution of features, the frequency of the emitted radar wave is generally selected in the 250 to 500 Megahertz (MHz) range. Antennae are interchangeable to gain better resolution (higher frequency antennae) or depth penetration (lower frequency antennae). However, greater accuracy and resolution is achieved at the expense of depth of penetration. Depth of penetration is also dependent upon the geologic conditions of the soils in which the investigation is being performed. The radar waves may be absorbed or scattered depending on the properties of the soil. In particular, electrical conductivity of materials such as clay can influence the depth of penetration. Electrically resistive material such as unsaturated, coarse-grained sediments optimizes GPR signal penetration. Exploration depths are limited by relatively conductive material such as saturated or fine-grained sediments, clay-rich soils, ash, or reinforced concrete.

Amec Foster Wheeler employed a Geophysical Survey Systems, Inc. SIR-3000 GPR system outfitted with a 400 MHz antenna in an attempt to image subsurface targets. Typical radar depth of penetration using this antenna ranges from 4 to 8 ft below ground surface (bgs) under ideal conditions (low conductivity soil such as sand and gravel) in developed urbanized settings and for fill or reworked soils. The observed effective depth of signal penetration at this Site was approximately 8 feet bgs.

DATA COLLECTION

The geophysical investigation was conducted from May 5-6, 2015 and included EM-61 and GPR data collection over the 7 acre area of investigation. EM61 data were collected in a

RESULTS

EM-61 data were collected within the fenced portion of the subject property and included approximately 7 acres of coverage. Additional outside areas to the north, south, and east were collected to achieve the delineation of buried metallic fill material. Data were processed following collection and were corrected for instrument latency, data spikes and drift. The processed color-contour map of the channel 3 response data are presented on Figure 1. Channel 3 is tpically selected as it provides the optimal depth information and instrument response to metallic objects. Colored contouring was applied to the output to highlight interpreted background response (dark blue to blue shading; <350 mV) and areas containing subsurface metallic debris and fill material (light blue to pink shading; >350 mV). Strong instrument responses are primarily due to the high metal content within the shallow subsurface (<5 ft bgs) and are present throughout more than 50% of the Site.

Geophysical anomalies were identified as point source, linear, or of areal extent based on interpreted EM-61 instrument response. Point source anomalies are identified by their isolated response exhibiting minimal correlation with surrounding features or adjacent anomalies. In general, point source features are primarily located within the southern half of the survey area with those located in the north being of high enough density to be further classified as areal anomalies. Linear anomalies are illustrated as background response (dark blue to blue) within areas of elevated instrument readings (light blue to pink) and are interpreted to be associated with former scrapyard aisles or areas where shallow metallic debris has been moved or reworked exposing native material or clean fill. These areas are located primarily along the perimeter of the subject property and within the western half of the surveyed area. Anomalies of areal extent are typically selected based on their “footprint” versus other EM anomalies. These features are located primarily within the northern half of the survey area and are interpreted to be comprised of multiple point sources based on anomaly density. Interpreted areal anomalies are attributed to

areas containing greater amounts of buried metallic debris versus background areas where surface metallic debris is thought to be shallower (<2 ft). This conclusion is based on historical aerial photographs that illustrate active areas of the former recycling facility, test pit logs completed previously by Amec Foster Wheeler personnel, and Site observations made at the time of data collection. Test pit locations are identified on Figure 1 and confirm interpreted EM-61 results.

GPR profiles, illustrated as light blue lines on Figure 1, were collected over the survey area in an effort to provide information on the anticipated depth of metallic debris distribution. The effective depth of investigation of the GPR signal was estimated at approximately 6-8 ft bgs, with the shallower signal penetration located in areas of increased soil moisture in low lying areas. Example GPR profile data are presented in Figure 2 as cross sections with interpreted features highlighted accordingly. In general, the GPR data was able to estimate an approximate maximum depth of fill material to 4 ft below grade, with most areas averaging less than 3 ft. Additionally, the depth of interpreted fill material deepened to the eastern half of the site. There was good correlation between interpreted fill areas from GPR data, as identified by black lines above selected profiles (Figure 2), and interpreted EM-61 instrument response (Figure 1).

CONCLUSIONS

The following conclusions result from the interpretation of geophysical information obtained during the survey and are based on the geophysical data collected, geophysical maps and GPR profiles produced, experience gained through past results of similar surveys, existing site history, and known subsurface information, although it is possible that some variation of actual subsurface conditions may vary from the interpretation and exist at this Site.

- Linear anomalies located along the perimeter and within the western half of the survey area from the EM-61 data are interpreted to be associated with former scrapyard aisles or areas where shallow metallic debris has been moved or reworked exposing native material or clean fill.
- Areal anomalies are located primarily within the northern half of the survey area and are interpreted to be comprised of multiple point sources based on anomaly density. These anomalies are attributed to areas containing greater amounts of buried metallic debris versus background areas where surface metallic debris is thought to be shallower (<2 ft).
- Several sources of above ground metallic interference were identified during data collection including perimeter fencing, buildings, truck scale, and steel-reinforced concrete.

- GPR data provided limited information on the source of individual EM-61 anomalies; however, GPR data was able to estimate an approximate maximum depth of fill material to a depth of 4 ft below grade, with most areas averaging less than 3 ft.

RECOMMENDATIONS

The following recommendations are based on the findings and conclusions discussed in this report:

- It is recommended that the locations of identified areal anomalies be located in the field prior to performing intrusive activities.
- Proposed borings located near interpreted point-source or areal anomalies should be advanced by hand to a depth of 3 feet to verify sufficient clearance for well completion.
- Further investigation of subsurface metallic anomalies identified by the EM-61 may be warranted through test pitting or other intrusive methods. This investigation should be determined by the Client through evaluation of any proposed site redevelopment (e.g. proposed remediation building) and potential impact from interpreted sources for these subsurface anomalous features. These investigation includes areas identified and interpreted to contain a high density of point source anomalous targets or features.

CLOSING

The field procedures and interpretive methodologies used in this project are consistent with industry standard, recognized practices in similar geophysical investigations. The correlation of geophysical responses with probable subsurface features is based on the geophysical data collected, geophysical anomaly maps, GPR profiles and correlation with the past result of similar surveys, although it is possible that some variation from our interpretation of subsurface anomalies could exist at this Site. This report represents our professional judgment and no warranty, either expressed or implied, is contained herein.

If you have any questions or desire further information, please feel free to contact myself or Raye Lahti as identified below.

Sincerely yours,
Amec Foster Wheeler Environment & Infrastructure

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Attachments: Figure 1 – EM-61 Channel 3 Response – E. Cohn Property – Columbus, GA
Figure 2 – Interpreted GPR Profiles – Selected Examples

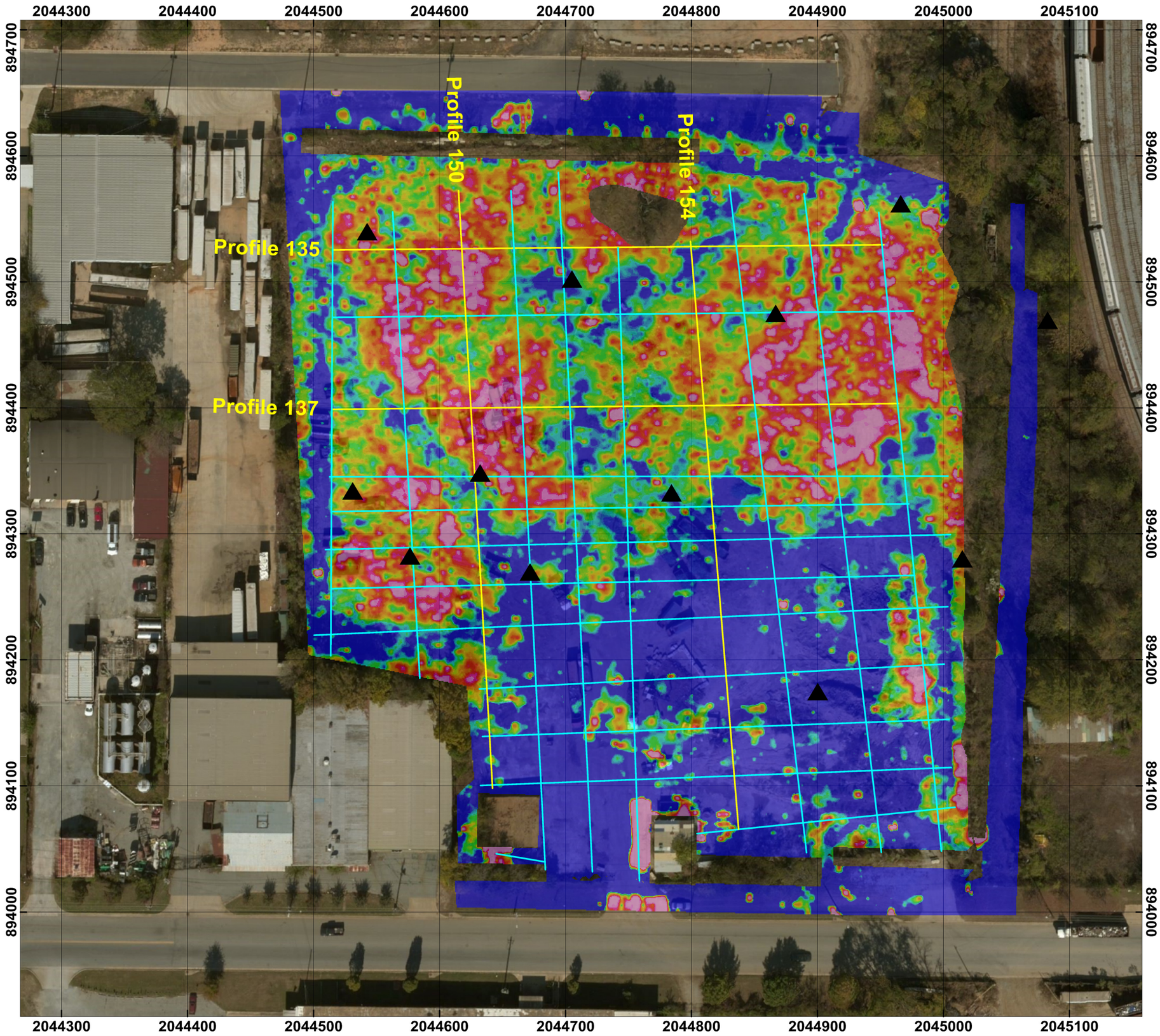


FIGURE 1

EM61 Response Contour Map
E. Cohn Property
715 5th Street
Columbus, GA

LEGEND

- Test Pit Location
- Ground Penetrating Radar (GPR) Profile Location
- Interpreted Ground Penetrating Radar Profile Location

Scale 1:1000

50 0 50 100

US survey foot

WGS 84 / SPCS83 Georgia West zone (US Survey feet)

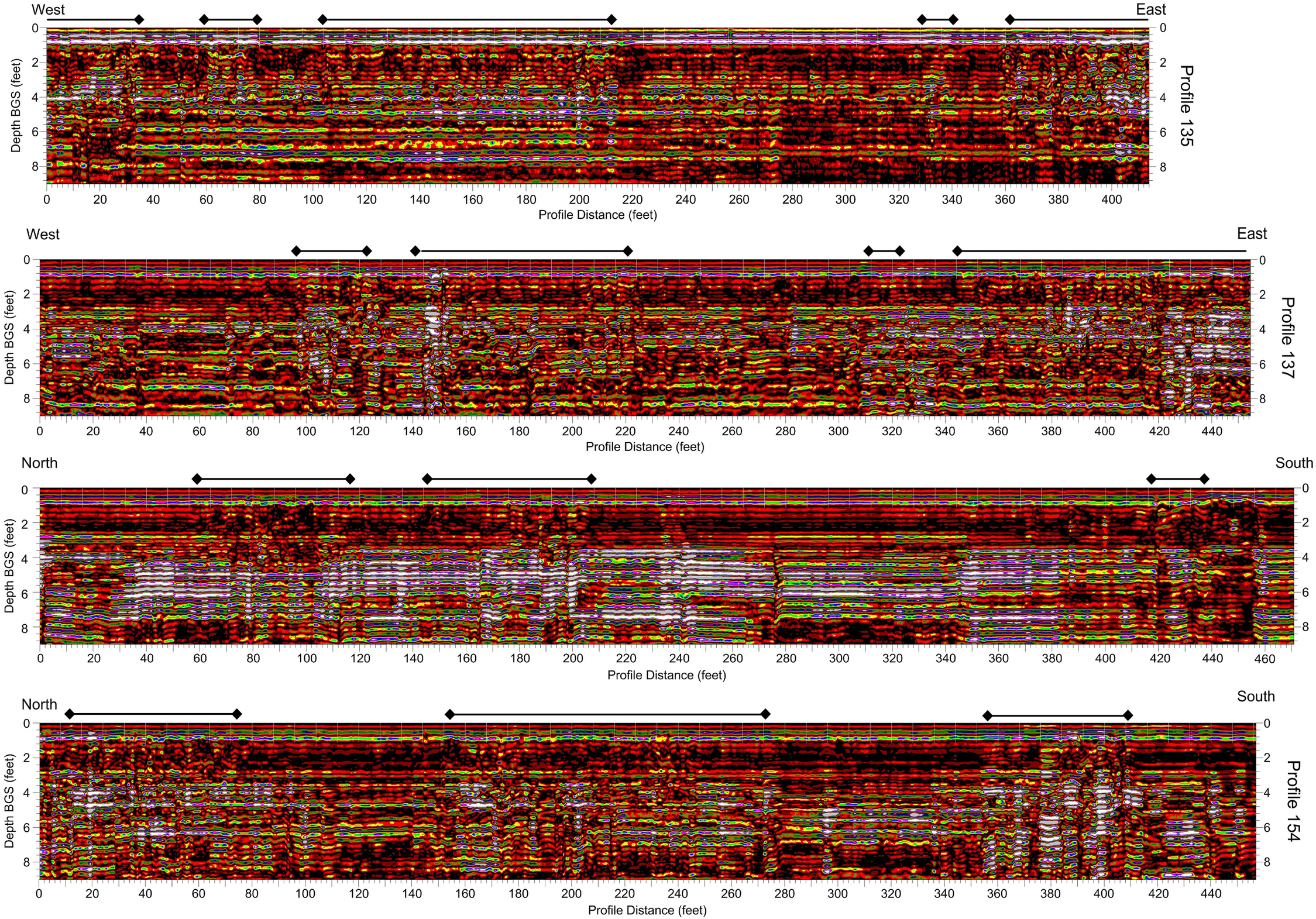
0.3 70.6 194.3 342.8 478.6 600.7 725.6 852.3 977.0 1097.1 1227.7 1362.8 1500.3 1657.5 1839.1 2056.4 2316.6 2682.7 3243.9

Increasing Subsurface Metallic Content

EM61 Response
Channel 3

NORFOLK SOUTHERN

amec foster wheeler



NOTES:

Interpreted Subsurface Debris Location

amec foster wheeler

Amec Foster Wheeler
Environment & Infrastructure, Inc.
800 Marquette Ave., Suite 1200
Minneapolis, MN 55402
Phone: (630) 724-8527
Fax: (630) 724-8518
web: http://www.amecfw.com

Interpreted GPR Profiles - Selected Examples
E. Cohn Property
715 5th Street
Columbus, GA

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	06/05/2015	6123140242.06

DRAWING NUMBER:

FIGURE 2

SHEET NUMBER:

1 OF 1

APPENDIX D

WELL CONSTRUCTION LOGS

AMEC FOSTER WHEELER	BORING LOG	MW-01 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/24/16

TOP OF RISER ELEVATION: 241.12 — DATE FINISH: 2/24/16

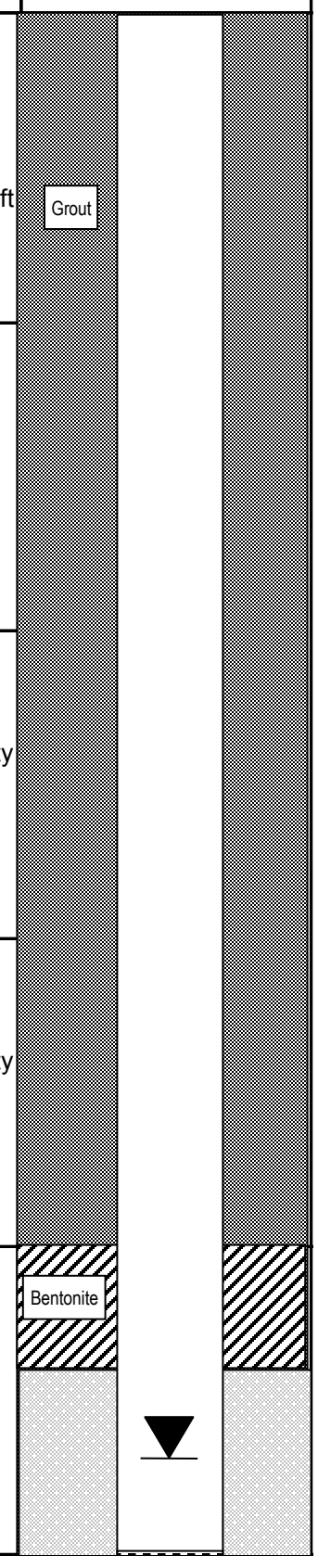
GROUND ELEVATION: ft 237.8 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-CoreÒ Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
1, 2, 3, 4, 5	0-5'	2.5'	0 0	0-2 ft	Fill	0-0.5 ft bgs: Gray Gravel and silty sand 0.5-1.5 ft bgs: Red-brown silty clay 1.5-4 ft bgs: Brown silty clay with some glass debris at 4 ft
6, 7, 8, 9, 10	5-10'	4.7'	0	6-8 ft		5-7.5 ft bgs: Red silty clay 7.5-8 ft bgs: Brown silty sandy clay 8-10 ft bgs: Tan silty fine to medium sand grading to silty sand with gravel
11, 12, 13, 14, 15	10-15'		0			10-15 ft bgs: Tan silty fine to medium sand grading to silty sand with gravel
16, 17, 18, 19, 20	15-20'		NA			15-20 ft bgs: Tan silty fine to medium sand grading to silty sand with gravel
21, 22, 23, 24, 25	20-25'		NA			Lithology taken from auger cuttings after 20 ft bgs. Silty sand with gravel



AMEC FOSTER WHEELER	BORING LOG	MW-01 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/24/16

TOP OF RISER ELEVATION: 241.12 — DATE FINISH: 2/24/16

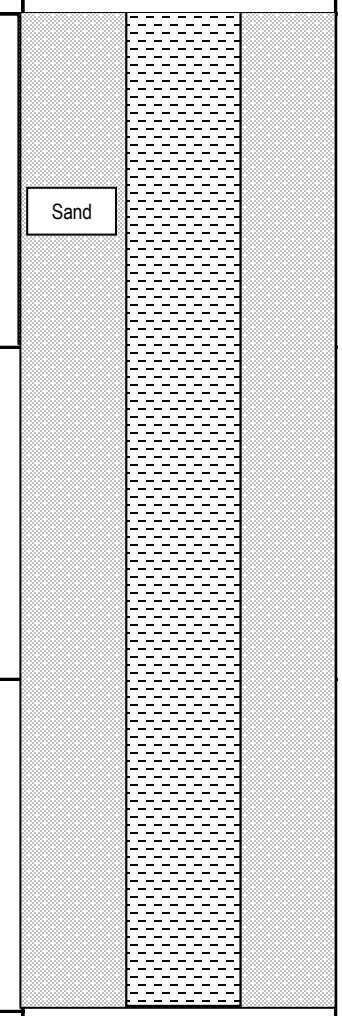
GROUND ELEVATION: ft 237.8 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-CoreÒ Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
26 27 28 29 30	25-30'		NA			Silty sand with gravel
31 32 33 34 35	30-35		NA			Silty sand with gravel
36 37 38 39 40	35-40		NA			Silty sand with gravel
						Boring Terminated at 40 ft bgs
						Well Set to 40 ft bgs End Cap 40 ft bgs #10 slot 2" Sch 40 PVC screen: 25.0-40.0 ft bgs Clean Silica Sand 22-40 ft bgs Bentonite Seal 20-22 ft bgs Portland-bentonite Grout to grade Stick up with post-type cover and concrete pad



End of Boring

prepared by: TK 2/24/16

checked by: RNQ 8/3/16

Amec Foster Wheeler Environment & Infrastructure, Inc.

AMEC FOSTER WHEELER	BORING LOG	MW-02 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/24/16

TOP OF RISER ELEVATION: 245.39 — DATE FINISH: 2/24/16

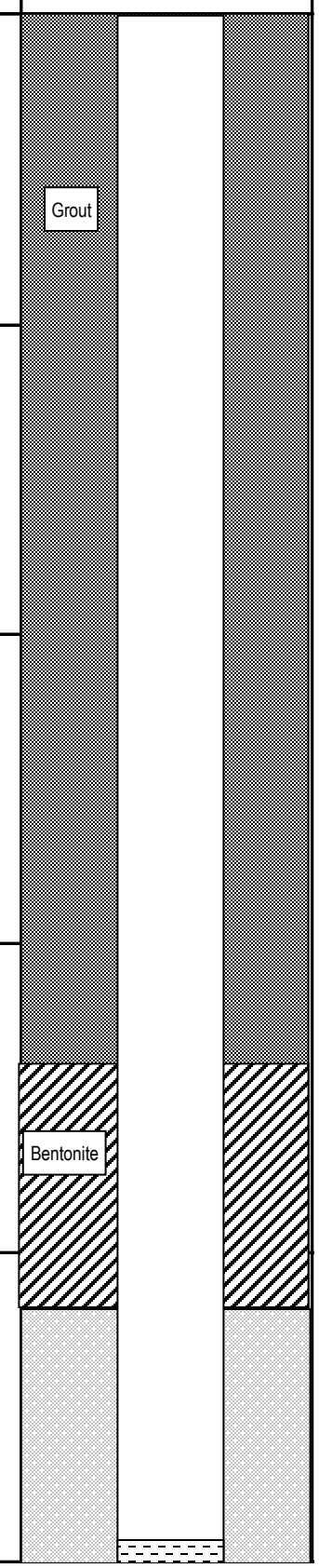
GROUND ELEVATION: ft 241.6 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-Core® Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
1, 2, 3, 4, 5	0-5'		3 1.5 0	0-2 ft 2-4 ft	Fill	0-0.8 ft bgs: Brown silty sand fill 0.8-3 ft bgs: Black silty sandy with debris (glass, copper pieces, PVC, and metal) 3-4 ft bgs: Dark brown silty clay 4-5 ft bgs: Red silty clay
6, 7, 8, 9, 10	5-10'		0 0	6-8 ft		5-9 ft bgs: Red silty clay 9-10 ft bgs: Tan silty fine to medium sand
11, 12, 13, 14, 15	10-15'		0	12-14 ft		10-15 ft bgs: Tan silty fine to medium sand
16, 17, 18, 19, 20	15-20'		0			15-20 ft bgs: Tan silty fine to medium sand with rounded stones
21, 22, 23, 24, 25	20-25'		NA			Lithology taken from auger cuttings after 20 ft bgs. Tan silty fine to medium sand with rounded stones



AMEC FOSTER WHEELER	BORING LOG	MW-02 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/24/16

TOP OF RISER ELEVATION: 245.39 — DATE FINISH: 2/24/16

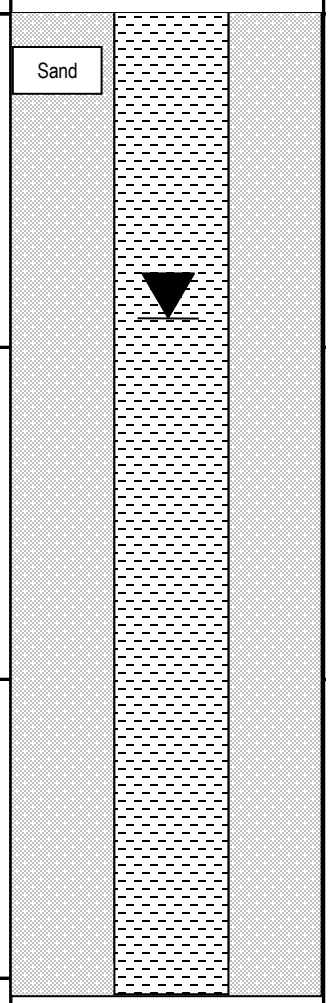
GROUND ELEVATION: ft 241.6 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-Core® Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
26 27 28 29 30	25-30'		NA			Tan silty fine to medium sand with rounded stones
31 32 33 34 35	30-35		NA			Tan silty fine to medium sand with rounded stones
36 37 38 39 40	35-40		NA			Tan silty fine to medium sand with rounded stones
						Boring Terminated at 39.8 ft bgs
						Well Set to 39.8 ft bgs End Cap 39.8 ft bgs #10 slot 2" Sch 40 PVC screen: 24.8-39.8 ft bgs Clean Silica Sand 21-39.8 ft bgs Bentonite Seal 17-21 ft bgs Portland-bentonite Grout to grade Stick up with post-type cover and concrete pad



End of Boring

prepared by: TK 2/24/16

Amec Foster Wheeler Environment & Infrastructure, Inc. checked by: RNQ 8/3/16

AMEC FOSTER WHEELER	BORING LOG	MW-03 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/24/16

TOP OF RISER ELEVATION: 246.60 — DATE FINISH: 2/24/16

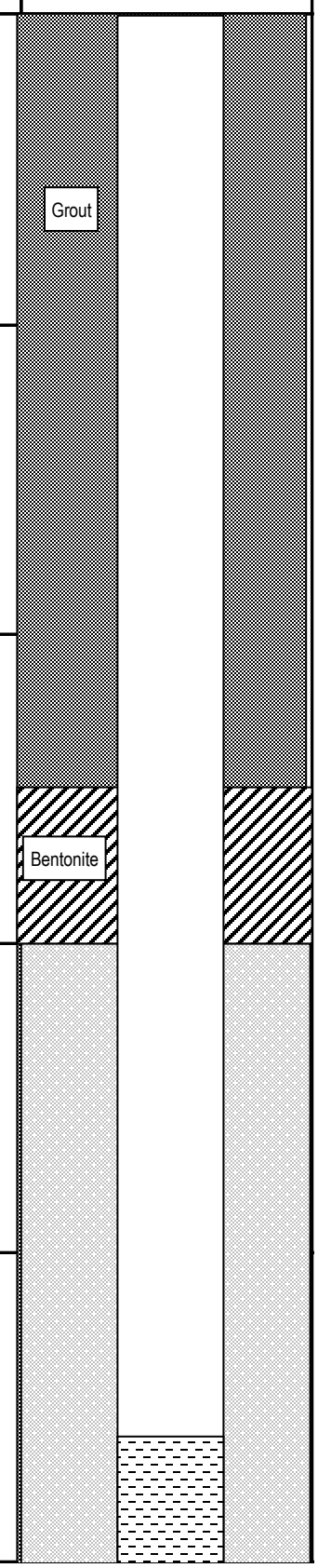
GROUND ELEVATION: ft 243.1 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-Core® Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
1, 2, 3, 4, 5	0-5'		0 0 0	0-2 ft 2-4 ft	Fill	0-0.7 ft bgs: Gray and tan fill with silty clay 0.7-2 ft bgs: Gray fill 2-4 ft bgs: Gray and black silty clay with concrete debris, broken glass, plastic, and 1/4-1/2-inch diameter gravel
6, 7, 8, 9, 10	5-10'		0 14 0	6-8 ft		4-6 ft bgs: Gray and black silty clay with concrete debris, broken glass, plastic, and 1/4-1/2-inch diameter gravel 6-7 ft bgs: Red silty sandy clay 7-10 ft bgs: Tan silty sand
11, 12, 13, 14, 15	10-15'		0.6	12-14 ft		Tan silty sand, no gravel
16, 17, 18, 19, 20	15-20'		0.5			Tan and red silty fine to medium sand with 1/2-inch diameter rounded stones
21, 22, 23, 24, 25	20-25'		NA			Lithlogy taken from auger cuttings after 20 ft bgs. Tan and red silty fine to medium sand with 1/2-inch diameter rounded stones



AMEC FOSTER WHEELER	BORING LOG	MW-03 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/24/16

TOP OF RISER ELEVATION: 246.60 — DATE FINISH: 2/24/16

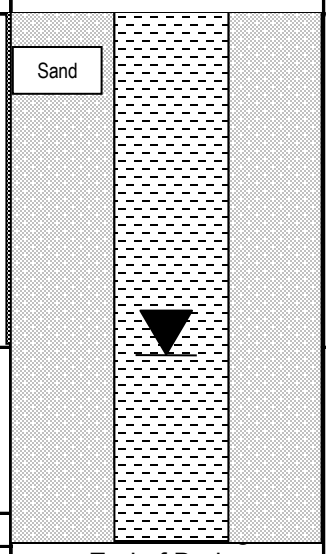
GROUND ELEVATION: ft 243.1 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-Core® Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
26 27 28 29 30	25-30'		NA			Tan and red silty fine to medium sand with 1/2-inch diameter rounded stones
31 32 33	30-35		NA			Tan and red silty fine to medium sand with 1/2-inch diameter rounded stones Boring Terminated at 33.0 ft bgs
						Well Set to 33.0 ft bgs End Cap 33.0 ft bgs #10 slot 2" Sch 40 PVC screen: 23.0-33.0 ft bgs Clean Silica Sand 15-33.0 ft bgs Bentonite Seal 12.5-15 ft bgs Portland-bentonite Grout to grade Stick up with post-type cover and concrete pad



End of Boring

Amec Foster Wheeler Environment & Infrastructure, Inc.

prepared by: TK 2/24/16
checked by: RNQ 8/3/16

AMEC FOSTER WHEELER	BORING LOG	MW-04 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/23/16

TOP OF RISER ELEVATION: 244.67 — DATE FINISH: 2/23/16

GROUND ELEVATION: ft 241.3 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-Core® Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
1, 2, 3, 4, 5	0-5'		0, 1, 1.5, 0, 0	0-2 ft	Fill	0-0.5 ft bgs: Fill soil, yellow and brown silty sandy clay 0.5-2 ft bgs: concrete dust with 1/2-inch diameter gravel 2-2.5 ft bgs: Black silty sand with debris wire, glass, 1/2-inch diameter gravel 2.5-3 ft bgs: Red fill silty sandy clay with debris 3-5 ft bgs: Gray silty sandy clay with debris glass, 1/2-inch diameter gravel, black staining at 4.5 ft and 4.8 ft
6, 7, 8, 9, 10	5-10'		NA			5-6 ft bgs: Black and gray debris 6-7 ft bgs: Red silty sandy clay 7-10 ft bgs: Red and brown silty fine to medium sand
11, 12, 13, 14, 15	10-15'		0	12-14 ft		10-15 ft bgs: Red and brown silty fine to medium sand with 1/4-inch diameter gravel
16, 17, 18, 19, 20	15-20'		NA			15-20 ft bgs: Red and brown silty fine to medium sand with 1/4-inch diameter rounded gravel
21, 22, 23, 24, 25	20-25'		NA			Lithology taken from auger cuttings after 20 ft bgs. Red and brown silty fine to medium sand with 1/4-inch diameter rounded gravel

Grout

AMEC FOSTER WHEELER	BORING LOG	MW-04 (BORING ID.)

PROJECT: Cohn Site - Columbus, GA

CLIENT: COG — PROJ. NO. 6123140242

DRILLING CONTRACTOR: EMServices - Woodstock, Georgia — DATE START: 2/23/16

TOP OF RISER ELEVATION: 244.67 — DATE FINISH: 2/23/16

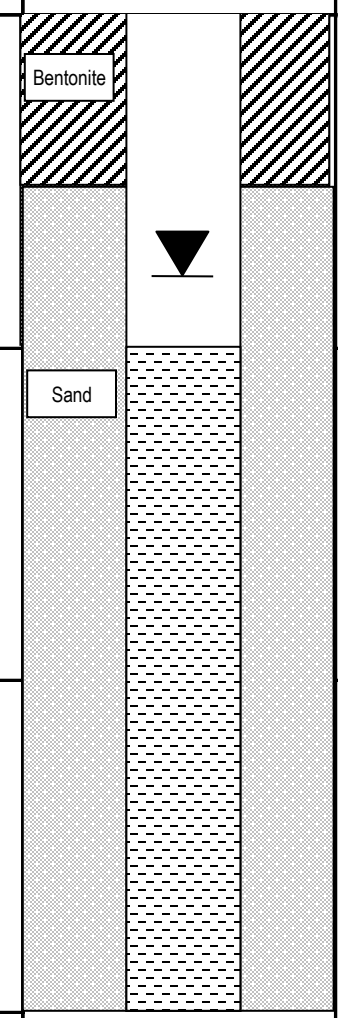
GROUND ELEVATION: ft 241.3 DATUM: Georgia State Plane (west zone) — DRILLER: EMS

DRILLING METHOD: Geoprobe® 7720DT Direct Push Technology (DPT) Rig +HS augers — FIELD REP.:TK

SAMPLING METHOD: 5-foot long Macro-Core® Core Barrel

CORING METHOD: DPT

DEPTH FT.	SAMPLE ID.	SAMPLE RECOVERY	PID READING (PPM)	ANALYTICAL SAMPLE	SYMBOL	IDENTIFICATION & REMARKS
26 27 28 29 30	25-30'		NA			Red and brown silty fine to medium sand with 1/4-inch diameter rounded gravel
31 32 33 34 35	30-35		NA			Red and brown silty fine to medium sand with 1/4-inch diameter rounded gravel
36 37 38 39 40	35-40		NA			Red and brown silty fine to medium sand with 1/4-inch diameter rounded gravel
						Boring Terminated at 40 ft bgs
						Well Set to 40 ft bgs End Cap 40 ft bgs #10 slot 2" Sch 40 PVC screen: 30.0-40.0 ft bgs Clean Silica Sand 27.6-40 ft bgs Bentonite Seal 25-27.6 ft bgs Portland-bentonite Grout to grade Stick up with post-type cover and concrete pad



End of Boring

prepared by: TK 2/23/16

Amec Foster Wheeler Environment & Infrastructure, Inc. checked by: RNQ 8/3/16

PROJECT NAME: NS
Columbus, GA

FIELD SAMPLING REPORT

Project Number: 6123140242

Amec Foster Wheeler
1075 Big Shanty Road Kennesaw, GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

DATE 4-11-16

WELL ID: MW-1
WELL MATERIAL: __ PVC __ SS __ OTHER
SAMPLE METHOD: Bladder Pump

DUP./REP. OF: _____

Intake Depth: 37.00'

Arrived at: 1830

WELL DIAMETER: 2"
DEPTH TO WATER: 27.25 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 42.00
WATER COLUMN HEIGHT: _____
PURGE VOLUME: _____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP. (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1845	—	5.84	190.5	6.04	0.222	20.02	7800	200 ( )	27.27
1850	.25	5.86	191.4	6.04	0.220	20.00	7800	200	27.27
1855	.50	5.75	193.4	6.04	0.216	19.96	7800	200	27.27
1900	.75	5.73	194.1	6.03	0.216	19.93	7800	200	27.27
1905	1.00	5.29	196.1	6.02	0.216	19.76	580	200	27.27
1910	1.25	5.27	197.8	6.02	0.216	19.74	188	200	27.27
1920	1.75	5.32	198.4	6.02	0.217	19.70	97	200	27.27
1930	2.25	5.31	201.1	6.04	0.220	19.61	71.4	200	27.27
1940	2.75	5.30	200.6	6.04	0.220	19.68	58.6	200	27.27
1950	3.25	5.27	201.9	6.03	0.220	19.63	68.4	200	27.27
1955	Sample	time	MW-1-041116						

NOTES:

SAMPLE DATE: 4-11-16
SAMPLE TIME: 1955

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS

GENERAL INFORMATION			
WEATHER:	Partly Cloud Cool		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Marte A	OBSERVER:	

PROJECT NAME: NS
Columbus, GA

FIELD SAMPLING REPORT

Project Number: 6123140242

Amec Foster Wheeler
1075 Big Shanty Road Kennesaw, GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

DATE 4-11-16

WELL ID: MW-2
WELL MATERIAL: (PVC) SS __ OTHER
SAMPLE METHOD: MW-2: BLADDER
MW-2-041116
DUP./REP. OF: DUP-1-041116
MW-2MS-041116 MW-2MSD-041116
Intake Depth: 40.0

WELL DIAMETER: 2
DEPTH TO WATER: 33.70 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 43.34
WATER COLUMN HEIGHT:
PURGE VOLUME:
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

Arrived at:

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1445	0.25	2.99	104.8	6.10	0.256	22.51	65.1	100 ( )	34.16
1455	0.5	1.36	99.5	5.96	0.253	22.52	74.2		34.41
1505	0.75	0.93	99.1	5.97	0.255	22.84	78.7		34.41
1515	1.0	0.79	95.6	6.01	0.264	22.93	68.3		34.41
1525	1.25	0.63	97.5	6.02	0.280	22.94	69.2		34.41
1535	1.5	0.77	97.7	6.01	0.308	21.34	54.2		34.41
1545	1.75	0.69	98.4	5.94	0.315	21.30	86.8		34.41
1555	2.0	1.06	98.5	5.98	0.308	21.96	90.1		34.41
1605	2.25	1.15	98.1	6.01	0.311	22.09	86.4		34.41
1610	Collect Sample			MW-2-041116					

NOTES: TURBIDITY NOT CLEARING - WILL SAMPLE THEN COLLECT A FIELD FILTERED SAMPLE.
Collected DUP-1-041116 @ 1200, MW-2MS-041116 & MW-2MSD-041116

SAMPLE DATE: 4-11-16
SAMPLE TIME:

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 ML POLY		HNO3		
40 ML VIAL	2	None		
40 ML VIAL	3	HCL		
250 ML AMBER	4	None		
1.0 L AMBER	1	None		

GENERAL INFORMATION	
WEATHER:	WARM - HUMID - CLOUDY
SHIPPED VIA:	
SHIPPED TO:	
SAMPLER: EVER GUILLEN	OBSERVER:

PROJECT NAME: NS
Columbus, GA

FIELD SAMPLING REPORT

Project Number: 6123140242

Amec Foster Wheeler
1075 Big Shanty Road Kennesaw, GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

DATE 4/11/16

WELL ID: MW-3
WELL MATERIAL: __ PVC __ SS __ OTHER
SAMPLE METHOD: Bladder Pump

DUP./REP. OF:

Intake Depth: 36.00'

Arrived at: 1430

WELL DIAMETER: 2"
DEPTH TO WATER: 35.32 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 37.05
WATER COLUMN HEIGHT:
PURGE VOLUME:
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1450	—	6.14	165.7	6.48	0.688	22.77	104.7	200 ( )	35.43
1455	.25	3.57	167.4	6.46	0.695	22.07	61.6	200	35.41
1500	.50	2.97	168.8	6.45	0.688	21.48	27.6	200	35.41
1505	.75	2.44	168.8	6.45	0.686	21.47	13.0	200	35.41
1510	1.00	2.80	168.4	6.45	0.688	21.50	4.28	200	35.41
1515	1.25	2.79	168.1	6.45	0.687	21.60	3.47	200	35.41
1518	Sample time MW3-041116								

NOTES:

SAMPLE DATE: 4/11/16
SAMPLE TIME: 1518

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml/VOA	3			VOCs
1 liter/Amber	1			Nitroaromatics / Amines
250/poly	1			Total Metals
250/Amber	4			SVOCs, PCBs, & PAHs
40ml/VOA	2			Glycols

GENERAL INFORMATION	
WEATHER:	Cloudy humid warm
SHIPPED VIA:	
SHIPPED TO:	
SAMPLER: Mark A.	OBSERVER:

PROJECT NAME: NS
Columbus, GA

FIELD SAMPLING REPORT

Project Number: 6123140242

Amec Foster Wheeler
1075 Big Shanty Road Kennesaw, GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

DATE 4/11/16

WELL ID: MW-4
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: Bladder pump

DUP./REP. OF: _____

Intake Depth: 39'

Arrived at: 1622

WELL DIAMETER: 2"
DEPTH TO WATER: 32.59
TOTAL DEPTH: 43.80
WATER COLUMN HEIGHT: _____
PURGE VOLUME: _____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	Diss. Oxygen (+/- 10%)	ORP (+/- 10 mV)	pH (+/- 0.1 pH units)	SPEC. COND. (ms/cm) [+/- 3%]	TEMP (°C)	TURB. (NTU) [<10 NTU]	Pump Rate ml/min. (& pump setting)	New Water Level
Initial: 1640	—	2.51	145.4	5.98	0.233	21.83	37800	200 ( )	32.53
1645	.25	2.03	148.7	5.87	0.228	21.37	7800	200	32.60
1650	.50	1.94	151.5	5.85	0.226	21.21	285	200	32.60
1655	.75	1.88	154.4	5.83	0.223	21.05	171	200	32.60
1700	1.00	1.82	157.7	5.81	0.222	21.03	143	200	32.60
1705	1.25	1.76	157.9	5.81	0.222	21.03	115	200	32.60
1710	1.50	1.75	160.0	5.81	0.222	20.93	54	200	32.60
1715	1.75	1.71	162.2	5.80	0.222	20.87	82.1	200	32.60
1720	2.00	1.75	162.8	5.80	0.222	20.92	79.5	200	32.60
1725	2.25	1.69	163.1	5.80	0.222	20.87	69.7	200	32.60
1735	2.75	1.65	165.5	5.78	0.222	20.69	36.1	200	32.60
1745	3.25	1.62	168.5	5.78	0.222	20.64	28.8	200	32.60
1755	3.75	1.64	167.1	5.79	0.222	20.60	10.4	200	32.60
1758	Sample	time	MW-	4-04	1116				

NOTES:

SAMPLE DATE: 4/11/16
SAMPLE TIME: 1758

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
40ml/vial	3	HCl		VOCs
1Litre/Amber	1	none		Nitroaromatics/Amines
250/poly	1	HNO3		Total Metals
250/Amber	4	none		SVOAs, PCBs, PAHs

GENERAL INFORMATION			
WEATHER:	Cloudy humid warm		
SHIPPED VIA:			
SHIPPED TO:			
SAMPLER:	Mark Andrews	OBSERVER:	

APPENDIX E

LABORATORY REPORTS

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: March 21, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 02/24/2016
Group Number: 1635142
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
SBO-10-0-2-022316 Grab Soil	8260037
SBO-10-6-8-022316 Grab Soil	8260038
SBO-10-12-14-022316 Grab Soil	8260039
MW-4-0-2-022316 Grab Soil	8260040
MW-4-2-4-022316 Grab Soil	8260041
MW-4-12-14-022316 Grab Soil	8260042
TB-022316 Sodium Bisulfate	8260043
SBO-08-6-8-022316 Grab Soil	8260044
SBO-08-12-14-022316 Grab Soil	8260045
SBO-08-0-2-022316 Grab Soil	8260046
SBO-07-0-2-022316 Grab Soil	8260047
SBO-07-6-8-022316 Grab Soil	8260048
SBO-07-12-14-022316 Grab Soil	8260049
SS-15-0-2-022316 Grab Soil	8260050
EQUIP.BLK-022316 Grab Water	8260051

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Ferdinand Mayila
Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1635142

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8260047

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8260038, 8260039, 8260043

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8260040

Reporting limits were raised due to interference from the sample matrix.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Batch #: R160621AA (Sample number(s): 8260047 UNSPK: P260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCSD

Batch #: R160633AA (Sample number(s): 8260040 UNSPK: P262196)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl Chloride, Tetrachloroethene, Freon 113

SW-846 8270D, GC/MS Semivolatiles

Sample #s: 8260037, 8260040, 8260041, 8260046, 8260047, 8260050

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 8260051

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
bis(2-Chloroethyl)ether

Batch #: 16058WAM026 (Sample number(s): 8260051 UNSPK: P262042)

The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: bis(2-Chloroethyl)ether

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: bis(2-Chloroethyl)ether

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 2,4-Dinitrophenol, bis(2-Chloroethyl)ether, Hexachlorocyclopentadiene

Batch #: 16062SLI026 (Sample number(s): 8260037-8260042, 8260044-8260050 UNSPK: 8260039)

The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: Hexachlorobutadiene

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2-Nitrophenol, 2,4,5-Trichlorophenol

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 2-Chloronaphthalene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8260040

SW-846 8082A, Pesticides/PCBs

Batch #: 160610002A (Sample number(s): 8260051)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCS, LCSD

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Batch #: 160610007A (Sample number(s): 8260037-8260042, 8260044-8260050 UNSPK: 8260037)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: PCB-1016, PCB-1260

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8260037

SW-846 8330B Rev.2 Oct. 2006, Explosives

Batch #: 160620006A (Sample number(s): 8260037-8260042, 8260044-8260050 UNSPK: 8260046)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: RDX, Nitrobenzene, 3,5-Dinitroaniline, 1,3-Dinitrobenzene, 2-Nitrotoluene, 4-Nitrotoluene, 4-Amino-2,6-Dinitrotoluene, 3-Nitrotoluene, 2-Amino-4,6-Dinitrotoluene, 2,6-Dinitrotoluene, 2,4-Dinitrotoluene, Tetryl, 2,4,6-Trinitrotoluene, Nitroglycerin, PETN

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Tetryl, HMX, PETN

SW-846 8015B modified, GC Miscellaneous

Sample #s: 8260051

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. The following corrective action was taken: The analysis was repeated and the continuing calibration verification standard bracketing the sample on the second trial is also outside the acceptance limits. This effect is attributed to the sample matrix and the data is reported.

Batch #: 160680025A (Sample number(s): 8260051 UNSPK: 8260051)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8260051, MS, MSD

SW-846 6010C, Metals

Batch #: 160610637001 (Sample number(s): 8260037-8260042, 8260044-8260050 UNSPK: 8260040 BKG: 8260040)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Magnesium, Potassium, Copper, Lead, Manganese, Nickel, Titanium, Vanadium, Zinc

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Magnesium, Copper, Nickel

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Cobalt, Copper, Nickel

SW-846 6020A, Metals

Sample #s: 8260050

Reporting limits were raised for metals due to interference from the sample matrix.

Batch #: 160610637001A (Sample number(s): 8260037-8260042, 8260044-8260050 UNSPK: 8260040 BKG: 8260040)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Arsenic, Chromium, Cadmium

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Cadmium, Chromium, Thallium

Batch #: 160610637001B (Sample number(s): 8260037-8260042, 8260044-8260050 UNSPK: 8260040 BKG: 8260040)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Selenium

SW-846 7470A, Metals

Batch #: 160615713004 (Sample number(s): 8260051 UNSPK: 8260051 BKG: 8260051)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Mercury

Sample Description: SBO-10-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260037
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 10:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1002-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	99	21	7	0.92
11995	Benzene	71-43-2	< 5	5	0.5	0.92
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.92
11995	Bromoform	75-25-2	< 5	5	1	0.92
11995	Bromomethane	74-83-9	< 5	5	2	0.92
11995	2-Butanone	78-93-3	14	11	4	0.92
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.92
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.92
11995	Chlorobenzene	108-90-7	< 5	5	1	0.92
11995	Chloroethane	75-00-3	< 5	5	2	0.92
11995	Chloroform	67-66-3	< 5	5	1	0.92
11995	Chloromethane	74-87-3	< 5	5	2	0.92
11995	Cyclohexane	110-82-7	< 5	5	1	0.92
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.92
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.92
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.92
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.92
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.92
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.92
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.92
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.92
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.92
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.92
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.92
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.92
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.92
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.92
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.92
11995	Ethylbenzene	100-41-4	12	5	1	0.92
11995	Freon 113	76-13-1	< 11	11	2	0.92
11995	2-Hexanone	591-78-6	< 11	11	3	0.92
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.92
11995	Methyl Acetate	79-20-9	< 5	5	2	0.92
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.92
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.92
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.92
11995	Methylene Chloride	75-09-2	< 5	5	2	0.92
11995	Styrene	100-42-5	< 5	5	1	0.92
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.92
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.92
11995	Toluene	108-88-3	< 5	5	1	0.92
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.92
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.92
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.92
11995	Trichloroethene	79-01-6	< 5	5	1	0.92
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.92
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.92
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.92
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	220	97	19	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260037
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 10:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1002-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 97	97	19	1
10726	Acetophenone	98-86-2	1,100	190	95	1
10726	Anthracene	120-12-7	620	97	19	1
10726	Atrazine	1912-24-9	< 950	950	190	1
10726	Benzaldehyde	100-52-7	< 950	950	380	1
10726	Benzo(a)anthracene	56-55-3	2,100	97	19	1
10726	Benzo(a)pyrene	50-32-8	2,200	97	19	1
10726	Benzo(b)fluoranthene	205-99-2	3,000	97	19	1
10726	Benzo(g,h,i)perylene	191-24-2	1,800	97	19	1
10726	Benzo(k)fluoranthene	207-08-9	1,200	97	19	1
10726	1,1'-Biphenyl	92-52-4	< 190	190	95	1
10726	4-Bromophenyl-phenylether	101-55-3	< 190	190	95	1
10726	Butylbenzylphthalate	85-68-7	< 950	950	380	1
10726	Di-n-butylphthalate	84-74-2	< 950	950	380	1
10726	Caprolactam	105-60-2	< 950	950	190	1
10726	Carbazole	86-74-8	300	190	95	1
10726	4-Chloro-3-methylphenol	59-50-7	< 190	190	95	1
10726	4-Chloroaniline	106-47-8	< 380	380	190	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 190	190	95	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 190	190	95	1
10726	2-Chloronaphthalene	91-58-7	< 190	190	38	1
10726	2-Chlorophenol	95-57-8	< 190	190	95	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 190	190	95	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 190	190	95	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	2,100	97	19	1
10726	Dibenz(a,h)anthracene	53-70-3	580	97	19	1
10726	Dibenzofuran	132-64-9	< 190	190	95	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,900	1,900	570	1
10726	2,4-Dichlorophenol	120-83-2	< 190	190	95	1
10726	Diethylphthalate	84-66-2	< 950	950	380	1
10726	2,4-Dimethylphenol	105-67-9	< 190	190	95	1
10726	Dimethylphthalate	131-11-3	< 950	950	380	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,800	2,800	950	1
10726	2,4-Dinitrophenol	51-28-5	< 5,700	5,700	1,700	1
10726	2,4-Dinitrotoluene	121-14-2	< 950	950	380	1
10726	2,6-Dinitrotoluene	606-20-2	< 190	190	95	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	3,500	970	380	1
10726	Fluoranthene	206-44-0	3,800	97	19	1
10726	Fluorene	86-73-7	220	97	19	1
10726	Hexachlorobenzene	118-74-1	< 97	97	19	1
10726	Hexachlorobutadiene	87-68-3	< 190	190	95	1
10726	Hexachlorocyclopentadiene	77-47-4	< 2,800	2,800	950	1
10726	Hexachloroethane	67-72-1	< 950	950	190	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	97	19	1
10726	Isophorone	78-59-1	< 190	190	95	1
10726	2-Methylnaphthalene	91-57-6	150	97	19	1
10726	2-Methylphenol	95-48-7	< 190	190	95	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260037
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 10:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1002-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 190	190	95	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	140	97	19	1
10726	2-Nitroaniline	88-74-4	< 190	190	95	1
10726	3-Nitroaniline	99-09-2	< 950	950	380	1
10726	4-Nitroaniline	100-01-6	< 950	950	380	1
10726	Nitrobenzene	98-95-3	< 190	190	95	1
10726	2-Nitrophenol	88-75-5	< 190	190	95	1
10726	4-Nitrophenol	100-02-7	< 2,800	2,800	950	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 190	190	95	1
10726	N-Nitrosodiphenylamine	86-30-6	< 190	190	95	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 950	950	380	1
10726	Pentachlorophenol	87-86-5	< 970	970	190	1
10726	Phenanthrene	85-01-8	2,200	97	19	1
10726	Phenol	108-95-2	< 190	190	95	1
10726	Pyrene	129-00-0	4,100	97	19	1
10726	2,4,5-Trichlorophenol	95-95-4	< 190	190	95	1
10726	2,4,6-Trichlorophenol	88-06-2	< 190	190	95	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	910	1
13413	2-Nitrotoluene	88-72-2	< 140	140	45	1
13413	3-Nitrotoluene	99-08-1	< 140	140	45	1
13413	4-Nitrotoluene	99-99-0	< 140	140	45	1
13413	PETN	78-11-5	< 2,700	2,700	910	1
13413	RDX	121-82-4	< 140	140	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 200	200	41	10

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260037
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 10:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1002-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 200	200	53	10
10885	PCB-1232	11141-16-5	< 200	200	92	10
10885	PCB-1242	53469-21-9	< 200	200	38	10
10885	PCB-1248	12672-29-6	3,000	200	38	10
10885	PCB-1254	11097-69-1	1,500	200	38	10
10885	PCB-1260	11096-82-5	< 200	200	56	10
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	18,400	45.6	8.74	1
06946	Barium	7440-39-3	185	1.14	0.137	1
01650	Calcium	7440-70-2	7,950	45.6	3.80	1
06952	Cobalt	7440-48-4	11.3	1.14	0.0924	1
06953	Copper	7440-50-8	240	2.28	0.365	1
01654	Iron	7439-89-6	54,200	228	19.0	5
06955	Lead	7439-92-1	325	3.42	0.468	1
01657	Magnesium	7439-95-4	2,220	22.8	1.90	1
06958	Manganese	7439-96-5	830	1.14	0.137	1
06961	Nickel	7440-02-0	78.6	2.28	0.262	1
01662	Potassium	7440-09-7	1,480	114	19.2	1
01667	Sodium	7440-23-5	< 228	228	19.0	1
06970	Titanium	7440-32-6	839	2.28	0.422	1
06971	Vanadium	7440-62-2	35.1	1.14	0.262	1
06972	Zinc	7440-66-6	1,000	4.56	0.878	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	6.74	0.456	0.0753	2
06125	Arsenic	7440-38-2	9.25	0.913	0.171	2
06127	Beryllium	7440-41-7	0.722	0.228	0.0162	2
06128	Cadmium	7440-43-9	2.68	0.228	0.0525	2
06131	Chromium	7440-47-3	166	0.913	0.114	2
06141	Selenium	7782-49-2	< 0.913	0.913	0.114	2
06142	Silver	7440-22-4	0.272	0.228	0.0228	2
06145	Thallium	7440-28-0	< 0.228	0.228	0.0342	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.764	0.222	0.0111	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	13.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-10-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260037
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 10:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1002-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016	13:07	Jennifer K Howe	0.92
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016	10:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016	10:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016	10:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/03/2016	23:58	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/04/2016	20:03	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/02/2016	23:23	Kirby B Turner	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016	22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/04/2016	22:03	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016	18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	14:39	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	18:27	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	16:32	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:03	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:03	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:03	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:03	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:18	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:03	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/06/2016	22:18	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	12:03	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-10-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260037
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 10:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1002-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:13	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260038
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1068-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 16	16	6	0.69
11995	Benzene	71-43-2	< 4	4	0.4	0.69
11995	Bromodichloromethane	75-27-4	< 4	4	0.8	0.69
11995	Bromoform	75-25-2	< 4	4	0.8	0.69
11995	Bromomethane	74-83-9	< 4	4	2	0.69
11995	2-Butanone	78-93-3	< 8	8	3	0.69
11995	Carbon Disulfide	75-15-0	< 4	4	0.8	0.69
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.8	0.69
11995	Chlorobenzene	108-90-7	< 4	4	0.8	0.69
11995	Chloroethane	75-00-3	< 4	4	2	0.69
11995	Chloroform	67-66-3	< 4	4	0.8	0.69
11995	Chloromethane	74-87-3	< 4	4	2	0.69
11995	Cyclohexane	110-82-7	< 4	4	0.8	0.69
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.69
11995	Dibromochloromethane	124-48-1	< 4	4	0.8	0.69
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.8	0.69
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.8	0.69
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.8	0.69
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.8	0.69
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.69
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.8	0.69
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.8	0.69
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.8	0.69
11995	cis-1,2-Dichloroethene	156-59-2	< 4	4	0.8	0.69
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.8	0.69
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.8	0.69
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.8	0.69
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.8	0.69
11995	Ethylbenzene	100-41-4	< 4	4	0.8	0.69
11995	Freon 113	76-13-1	< 8	8	2	0.69
11995	2-Hexanone	591-78-6	< 8	8	2	0.69
11995	Isopropylbenzene	98-82-8	< 4	4	0.8	0.69
11995	Methyl Acetate	79-20-9	< 4	4	2	0.69
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 4	4	0.4	0.69
11995	4-Methyl-2-pentanone	108-10-1	< 8	8	2	0.69
11995	Methylcyclohexane	108-87-2	< 4	4	0.8	0.69
11995	Methylene Chloride	75-09-2	< 4	4	2	0.69
11995	Styrene	100-42-5	< 4	4	0.8	0.69
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.8	0.69
11995	Tetrachloroethene	127-18-4	< 4	4	0.8	0.69
11995	Toluene	108-88-3	< 4	4	0.8	0.69
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.8	0.69
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.8	0.69
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.8	0.69
11995	Trichloroethene	79-01-6	< 4	4	0.8	0.69
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.69
11995	Vinyl Chloride	75-01-4	< 4	4	0.8	0.69
11995	Xylene (Total)	1330-20-7	< 4	4	0.8	0.69

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260038
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1068-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 20	20	4	1
10726	Acenaphthylene	208-96-8	< 20	20	4	1
10726	Acetophenone	98-86-2	< 39	39	19	1
10726	Anthracene	120-12-7	< 20	20	4	1
10726	Atrazine	1912-24-9	< 190	190	39	1
10726	Benzaldehyde	100-52-7	< 190	190	77	1
10726	Benzo(a)anthracene	56-55-3	20	20	4	1
10726	Benzo(a)pyrene	50-32-8	27	20	4	1
10726	Benzo(b)fluoranthene	205-99-2	35	20	4	1
10726	Benzo(g,h,i)perylene	191-24-2	36	20	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 20	20	4	1
10726	1,1'-Biphenyl	92-52-4	< 39	39	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 39	39	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	77	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	77	1
10726	Caprolactam	105-60-2	< 190	190	39	1
10726	Carbazole	86-74-8	< 39	39	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 39	39	19	1
10726	4-Chloroaniline	106-47-8	< 77	77	39	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 39	39	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 39	39	19	1
10726	2-Chloronaphthalene	91-58-7	< 38	38	8	1
10726	2-Chlorophenol	95-57-8	< 39	39	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 39	39	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 39	39	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 20	20	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 20	20	4	1
10726	Dibenzofuran	132-64-9	< 39	39	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 390	390	120	1
10726	2,4-Dichlorophenol	120-83-2	< 39	39	19	1
10726	Diethylphthalate	84-66-2	< 190	190	77	1
10726	2,4-Dimethylphenol	105-67-9	< 39	39	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	77	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 580	580	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,200	1,200	350	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	77	1
10726	2,6-Dinitrotoluene	606-20-2	< 39	39	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 200	200	77	1
10726	Fluoranthene	206-44-0	29	20	4	1
10726	Fluorene	86-73-7	< 20	20	4	1
10726	Hexachlorobenzene	118-74-1	< 20	20	4	1
10726	Hexachlorobutadiene	87-68-3	< 39	39	19	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260038
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1068-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorocyclopentadiene	77-47-4	< 580	580	190	1
10726	Hexachloroethane	67-72-1	< 190	190	39	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	28	20	4	1
10726	Isophorone	78-59-1	< 39	39	19	1
10726	2-Methylnaphthalene	91-57-6	< 20	20	4	1
10726	2-Methylphenol	95-48-7	< 39	39	19	1
10726	4-Methylphenol	106-44-5	< 39	39	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 20	20	4	1
10726	2-Nitroaniline	88-74-4	< 39	39	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	77	1
10726	4-Nitroaniline	100-01-6	< 190	190	77	1
10726	Nitrobenzene	98-95-3	< 39	39	19	1
10726	2-Nitrophenol	88-75-5	< 39	39	19	1
10726	4-Nitrophenol	100-02-7	< 580	580	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 39	39	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 39	39	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	77	1
10726	Pentachlorophenol	87-86-5	< 200	200	39	1
10726	Phenanthrene	85-01-8	27	20	4	1
10726	Phenol	108-95-2	< 39	39	19	1
10726	Pyrene	129-00-0	30	20	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 39	39	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 39	39	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	46	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	46	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 350	350	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 350	350	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	46	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	46	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	46	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	46	1
13413	HMX	2691-41-0	< 350	350	120	1
13413	Nitrobenzene	98-95-3	< 350	350	120	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	930	1
13413	2-Nitrotoluene	88-72-2	< 140	140	46	1
13413	3-Nitrotoluene	99-08-1	< 140	140	46	1
13413	4-Nitrotoluene	99-99-0	< 140	140	46	1
13413	PETN	78-11-5	< 2,800	2,800	930	1
13413	RDX	121-82-4	< 140	140	46	1
13413	Tetryl	479-45-8	< 350	350	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	46	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-10-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260038
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1068-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	46	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.2	1
10885	PCB-1221	11104-28-2	< 20	20	5.3	1
10885	PCB-1232	11141-16-5	< 20	20	9.3	1
10885	PCB-1242	53469-21-9	< 20	20	3.8	1
10885	PCB-1248	12672-29-6	32	20	3.8	1
10885	PCB-1254	11097-69-1	< 20	20	3.8	1
10885	PCB-1260	11096-82-5	< 20	20	5.7	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	43,200	45.9	8.78	1
06946	Barium	7440-39-3	138	1.15	0.138	1
01650	Calcium	7440-70-2	764	45.9	3.82	1
06952	Cobalt	7440-48-4	8.20	1.15	0.0929	1
06953	Copper	7440-50-8	45.1	2.29	0.367	1
01654	Iron	7439-89-6	34,700	229	19.1	5
06955	Lead	7439-92-1	16.4	3.44	0.470	1
01657	Magnesium	7439-95-4	2,990	22.9	1.91	1
06958	Manganese	7439-96-5	234	1.15	0.138	1
06961	Nickel	7440-02-0	15.0	2.29	0.264	1
01662	Potassium	7440-09-7	2,650	115	19.3	1
01667	Sodium	7440-23-5	< 229	229	19.1	1
06970	Titanium	7440-32-6	1,760	11.5	2.12	5
06971	Vanadium	7440-62-2	74.2	1.15	0.264	1
06972	Zinc	7440-66-6	67.3	4.59	0.883	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.459	0.459	0.0757	2
06125	Arsenic	7440-38-2	3.09	0.917	0.172	2
06127	Beryllium	7440-41-7	1.09	0.229	0.0163	2
06128	Cadmium	7440-43-9	< 0.229	0.229	0.0527	2
06131	Chromium	7440-47-3	37.5	0.917	0.115	2
06141	Selenium	7782-49-2	< 0.917	0.917	0.115	2
06142	Silver	7440-22-4	< 0.229	0.229	0.0229	2
06145	Thallium	7440-28-0	0.432	0.229	0.0344	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.228	0.228	0.0114	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.5	0.50	0.50	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-10-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260038
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1068-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160593AA	02/28/2016 21:39	Christopher G Torres	0.69
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016 11:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016 11:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016 11:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016 00:21	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016 09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/04/2016 20:40	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/02/2016 23:57	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016 22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/04/2016 22:21	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016 18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016 14:43	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016 18:31	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-10-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260038
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1068-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 18:31	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 16:35	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 12:06	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 12:06	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 12:06	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 12:06	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:20	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 12:06	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016 12:06	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 12:06	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:15	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260039
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1012-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 22	22	8	1.05
11995	Benzene	71-43-2	< 5	5	0.5	1.05
11995	Bromodichloromethane	75-27-4	< 5	5	1	1.05
11995	Bromoform	75-25-2	< 5	5	1	1.05
11995	Bromomethane	74-83-9	< 5	5	2	1.05
11995	2-Butanone	78-93-3	< 11	11	4	1.05
11995	Carbon Disulfide	75-15-0	< 5	5	1	1.05
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1.05
11995	Chlorobenzene	108-90-7	< 5	5	1	1.05
11995	Chloroethane	75-00-3	< 5	5	2	1.05
11995	Chloroform	67-66-3	< 5	5	1	1.05
11995	Chloromethane	74-87-3	< 5	5	2	1.05
11995	Cyclohexane	110-82-7	< 5	5	1	1.05
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1.05
11995	Dibromochloromethane	124-48-1	< 5	5	1	1.05
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1.05
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1.05
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1.05
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1.05
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1.05
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1.05
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1.05
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1.05
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1.05
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1.05
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1.05
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1.05
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1.05
11995	Ethylbenzene	100-41-4	< 5	5	1	1.05
11995	Freon 113	76-13-1	< 11	11	2	1.05
11995	2-Hexanone	591-78-6	< 11	11	3	1.05
11995	Isopropylbenzene	98-82-8	< 5	5	1	1.05
11995	Methyl Acetate	79-20-9	< 5	5	2	1.05
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1.05
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.05
11995	Methylcyclohexane	108-87-2	< 5	5	1	1.05
11995	Methylene Chloride	75-09-2	< 5	5	2	1.05
11995	Styrene	100-42-5	< 5	5	1	1.05
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1.05
11995	Tetrachloroethene	127-18-4	< 5	5	1	1.05
11995	Toluene	108-88-3	< 5	5	1	1.05
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1.05
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1.05
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1.05
11995	Trichloroethene	79-01-6	< 5	5	1	1.05
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1.05
11995	Vinyl Chloride	75-01-4	< 5	5	1	1.05
11995	Xylene (Total)	1330-20-7	< 5	5	1	1.05

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260039
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1012-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 17	17	3	1
10726	Acenaphthylene	208-96-8	< 17	17	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 17	17	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	68	1
10726	Benzo(a)anthracene	56-55-3	< 17	17	3	1
10726	Benzo(a)pyrene	50-32-8	< 17	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 17	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 17	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 17	17	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	68	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	68	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 68	68	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 33	33	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 17	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 17	17	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	68	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	68	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 510	510	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	68	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 170	170	68	1
10726	Fluoranthene	206-44-0	< 17	17	3	1
10726	Fluorene	86-73-7	< 17	17	3	1
10726	Hexachlorobenzene	118-74-1	< 17	17	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260039
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1012-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorocyclopentadiene	77-47-4	< 510	510	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 17	17	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 17	17	3	1
10726	2-Methylphenol	95-48-7	< 34	34	17	1
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 17	17	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	68	1
10726	4-Nitroaniline	100-01-6	< 170	170	68	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 510	510	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	68	1
10726	Pentachlorophenol	87-86-5	< 170	170	34	1
10726	Phenanthrene	85-01-8	< 17	17	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 17	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	39	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	39	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 290	290	98	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 290	290	98	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	39	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	39	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	39	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	39	1
13413	HMX	2691-41-0	< 290	290	98	1
13413	Nitrobenzene	98-95-3	< 290	290	98	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	780	1
13413	2-Nitrotoluene	88-72-2	< 120	120	39	1
13413	3-Nitrotoluene	99-08-1	< 120	120	39	1
13413	4-Nitrotoluene	99-99-0	< 120	120	39	1
13413	PETN	78-11-5	< 2,400	2,400	780	1
13413	RDX	121-82-4	< 120	120	39	1
13413	Tetryl	479-45-8	< 290	290	98	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	39	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-10-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260039
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1012-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	39	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.7	1
10885	PCB-1221	11104-28-2	< 17	17	4.7	1
10885	PCB-1232	11141-16-5	< 17	17	8.1	1
10885	PCB-1242	53469-21-9	< 17	17	3.3	1
10885	PCB-1248	12672-29-6	< 17	17	3.3	1
10885	PCB-1254	11097-69-1	< 17	17	3.3	1
10885	PCB-1260	11096-82-5	< 17	17	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,930	40.1	7.69	1
06946	Barium	7440-39-3	19.4	1.00	0.120	1
01650	Calcium	7440-70-2	199	40.1	3.34	1
06952	Cobalt	7440-48-4	1.74	1.00	0.0813	1
06953	Copper	7440-50-8	7.70	2.01	0.321	1
01654	Iron	7439-89-6	4,940	40.1	3.34	1
06955	Lead	7439-92-1	< 3.01	3.01	0.411	1
01657	Magnesium	7439-95-4	553	20.1	1.68	1
06958	Manganese	7439-96-5	89.2	1.00	0.120	1
06961	Nickel	7440-02-0	2.08	2.01	0.231	1
01662	Potassium	7440-09-7	458	100	16.9	1
01667	Sodium	7440-23-5	< 201	201	16.8	1
06970	Titanium	7440-32-6	393	2.01	0.371	1
06971	Vanadium	7440-62-2	10.3	1.00	0.231	1
06972	Zinc	7440-66-6	28.9	4.01	0.773	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.401	0.401	0.0662	2
06125	Arsenic	7440-38-2	< 0.803	0.803	0.151	2
06127	Beryllium	7440-41-7	< 0.201	0.201	0.0142	2
06128	Cadmium	7440-43-9	< 0.201	0.201	0.0462	2
06131	Chromium	7440-47-3	6.21	0.803	0.100	2
06141	Selenium	7782-49-2	< 0.803	0.803	0.100	2
06142	Silver	7440-22-4	< 0.201	0.201	0.0201	2
06145	Thallium	7440-28-0	< 0.201	0.201	0.0301	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.201	0.201	0.0101	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	2.3	0.50	0.50	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-10-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260039
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1012-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160593AA	02/28/2016	22:02	Christopher G Torres	1.05
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016	11:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016	11:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016	11:50	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/03/2016	22:47	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/04/2016	21:16	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016	00:09	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016	22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/04/2016	22:40	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016	18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	14:46	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	16:45	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-10-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260039
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 11:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1012-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 16:45	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 16:45	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 16:45	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 12:15	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 12:15	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 12:15	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 12:15	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:25	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 12:15	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016 12:15	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 12:15	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:17	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260040
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

402--

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 840	840	290	37.94
11995	Benzene	71-43-2	< 210	210	21	37.94
11995	Bromodichloromethane	75-27-4	< 210	210	42	37.94
11995	Bromoform	75-25-2	< 210	210	42	37.94
11995	Bromomethane	74-83-9	< 210	210	84	37.94
11995	2-Butanone	78-93-3	< 420	420	170	37.94
11995	Carbon Disulfide	75-15-0	< 210	210	42	37.94
11995	Carbon Tetrachloride	56-23-5	< 210	210	42	37.94
11995	Chlorobenzene	108-90-7	< 210	210	42	37.94
11995	Chloroethane	75-00-3	< 210	210	84	37.94
11995	Chloroform	67-66-3	< 210	210	42	37.94
11995	Chloromethane	74-87-3	< 210	210	84	37.94
11995	Cyclohexane	110-82-7	< 210	210	42	37.94
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 210	210	84	37.94
11995	Dibromochloromethane	124-48-1	< 210	210	42	37.94
11995	1,2-Dibromoethane	106-93-4	< 210	210	42	37.94
11995	1,2-Dichlorobenzene	95-50-1	< 210	210	42	37.94
11995	1,3-Dichlorobenzene	541-73-1	< 210	210	42	37.94
11995	1,4-Dichlorobenzene	106-46-7	< 210	210	42	37.94
11995	Dichlorodifluoromethane	75-71-8	< 210	210	84	37.94
11995	1,1-Dichloroethane	75-34-3	< 210	210	42	37.94
11995	1,2-Dichloroethane	107-06-2	< 210	210	42	37.94
11995	1,1-Dichloroethene	75-35-4	< 210	210	42	37.94
11995	cis-1,2-Dichloroethene	156-59-2	< 210	210	42	37.94
11995	trans-1,2-Dichloroethene	156-60-5	< 210	210	42	37.94
11995	1,2-Dichloropropane	78-87-5	< 210	210	42	37.94
11995	cis-1,3-Dichloropropene	10061-01-5	< 210	210	42	37.94
11995	trans-1,3-Dichloropropene	10061-02-6	< 210	210	42	37.94
11995	Ethylbenzene	100-41-4	< 210	210	42	37.94
11995	Freon 113	76-13-1	< 420	420	84	37.94
11995	2-Hexanone	591-78-6	< 420	420	130	37.94
11995	Isopropylbenzene	98-82-8	< 210	210	42	37.94
11995	Methyl Acetate	79-20-9	1,300	210	84	37.94
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 210	210	21	37.94
11995	4-Methyl-2-pentanone	108-10-1	< 420	420	130	37.94
11995	Methylcyclohexane	108-87-2	< 210	210	42	37.94
11995	Methylene Chloride	75-09-2	< 210	210	84	37.94
11995	Styrene	100-42-5	< 210	210	42	37.94
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 210	210	42	37.94
11995	Tetrachloroethene	127-18-4	< 210	210	42	37.94
11995	Toluene	108-88-3	< 210	210	42	37.94
11995	1,2,4-Trichlorobenzene	120-82-1	< 210	210	42	37.94
11995	1,1,1-Trichloroethane	71-55-6	< 210	210	42	37.94
11995	1,1,2-Trichloroethane	79-00-5	< 210	210	42	37.94
11995	Trichloroethene	79-01-6	< 210	210	42	37.94
11995	Trichlorofluoromethane	75-69-4	< 210	210	84	37.94
11995	Vinyl Chloride	75-01-4	< 210	210	42	37.94
11995	Xylene (Total)	1330-20-7	< 210	210	42	37.94

Reporting limits were raised due to interference from the sample matrix.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260040
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
	Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	130	93	18	1
10726	Acenaphthylene	208-96-8	< 93	93	18	1
10726	Acetophenone	98-86-2	< 180	180	92	1
10726	Anthracene	120-12-7	310	93	18	1
10726	Atrazine	1912-24-9	< 920	920	180	1
10726	Benzaldehyde	100-52-7	< 920	920	370	1
10726	Benzo(a)anthracene	56-55-3	1,000	93	18	1
10726	Benzo(a)pyrene	50-32-8	1,100	93	18	1
10726	Benzo(b)fluoranthene	205-99-2	1,800	93	18	1
10726	Benzo(g,h,i)perylene	191-24-2	1,100	93	18	1
10726	Benzo(k)fluoranthene	207-08-9	600	93	18	1
10726	1,1'-Biphenyl	92-52-4	< 180	180	92	1
10726	4-Bromophenyl-phenylether	101-55-3	< 180	180	92	1
10726	Butylbenzylphthalate	85-68-7	< 920	920	370	1
10726	Di-n-butylphthalate	84-74-2	< 920	920	370	1
10726	Caprolactam	105-60-2	< 920	920	180	1
10726	Carbazole	86-74-8	200	180	92	1
10726	4-Chloro-3-methylphenol	59-50-7	< 180	180	92	1
10726	4-Chloroaniline	106-47-8	< 370	370	180	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 180	180	92	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 180	180	92	1
10726	2-Chloronaphthalene	91-58-7	< 180	180	37	1
10726	2-Chlorophenol	95-57-8	< 180	180	92	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 180	180	92	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 180	180	92	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,000	93	18	1
10726	Dibenz(a,h)anthracene	53-70-3	< 93	93	18	1
10726	Dibenzofuran	132-64-9	< 180	180	92	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,800	1,800	550	1
10726	2,4-Dichlorophenol	120-83-2	< 180	180	92	1
10726	Diethylphthalate	84-66-2	< 920	920	370	1
10726	2,4-Dimethylphenol	105-67-9	< 180	180	92	1
10726	Dimethylphthalate	131-11-3	< 920	920	370	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,700	2,700	920	1
10726	2,4-Dinitrophenol	51-28-5	< 5,500	5,500	1,600	1
10726	2,4-Dinitrotoluene	121-14-2	< 920	920	370	1
10726	2,6-Dinitrotoluene	606-20-2	< 180	180	92	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	3,500	930	370	1
10726	Fluoranthene	206-44-0	2,000	93	18	1
10726	Fluorene	86-73-7	140	93	18	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260040
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorobenzene	118-74-1	< 93	93	18	1
10726	Hexachlorobutadiene	87-68-3	< 180	180	92	1
10726	Hexachlorocyclopentadiene	77-47-4	< 2,700	2,700	920	1
10726	Hexachloroethane	67-72-1	< 920	920	180	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	940	93	18	1
10726	Isophorone	78-59-1	< 180	180	92	1
10726	2-Methylnaphthalene	91-57-6	< 93	93	18	1
10726	2-Methylphenol	95-48-7	< 180	180	92	1
10726	4-Methylphenol	106-44-5	< 180	180	92	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 93	93	18	1
10726	2-Nitroaniline	88-74-4	< 180	180	92	1
10726	3-Nitroaniline	99-09-2	< 920	920	370	1
10726	4-Nitroaniline	100-01-6	< 920	920	370	1
10726	Nitrobenzene	98-95-3	< 180	180	92	1
10726	2-Nitrophenol	88-75-5	< 180	180	92	1
10726	4-Nitrophenol	100-02-7	< 2,700	2,700	920	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 180	180	92	1
10726	N-Nitrosodiphenylamine	86-30-6	< 180	180	92	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 920	920	370	1
10726	Pentachlorophenol	87-86-5	< 930	930	180	1
10726	Phenanthrene	85-01-8	1,200	93	18	1
10726	Phenol	108-95-2	410	180	92	1
10726	Pyrene	129-00-0	2,100	93	18	1
10726	2,4,5-Trichlorophenol	95-95-4	< 180	180	92	1
10726	2,4,6-Trichlorophenol	88-06-2	< 180	180	92	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	43	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	43	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 320	320	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 320	320	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	43	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	43	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	43	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	43	1
13413	HMX	2691-41-0	< 320	320	110	1
13413	Nitrobenzene	98-95-3	< 320	320	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	860	1
13413	2-Nitrotoluene	88-72-2	< 130	130	43	1
13413	3-Nitrotoluene	99-08-1	< 130	130	43	1
13413	4-Nitrotoluene	99-99-0	< 130	130	43	1
13413	PETN	78-11-5	< 2,600	2,600	860	1
13413	RDX	121-82-4	< 130	130	43	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260040
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	Tetryl	479-45-8	< 320	320	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	43	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	43	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 190	190	39	10
10885	PCB-1221	11104-28-2	< 190	190	50	10
10885	PCB-1232	11141-16-5	< 190	190	88	10
10885	PCB-1242	53469-21-9	< 190	190	36	10
10885	PCB-1248	12672-29-6	2,800	190	36	10
10885	PCB-1254	11097-69-1	1,400	190	36	10
10885	PCB-1260	11096-82-5	320	190	54	10
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.5	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	13,900	43.3	8.29	1
06946	Barium	7440-39-3	194	1.08	0.130	1
01650	Calcium	7440-70-2	37,900	43.3	3.60	1
06952	Cobalt	7440-48-4	7.14	1.08	0.0877	1
06953	Copper	7440-50-8	549	2.16	0.346	1
01654	Iron	7439-89-6	48,500	216	18.0	5
06955	Lead	7439-92-1	276	3.25	0.444	1
01657	Magnesium	7439-95-4	5,310	21.6	1.81	1
06958	Manganese	7439-96-5	518	1.08	0.130	1
06961	Nickel	7440-02-0	54.9	2.16	0.249	1
01662	Potassium	7440-09-7	1,880	108	18.2	1
01667	Sodium	7440-23-5	234	216	18.1	1
06970	Titanium	7440-32-6	840	2.16	0.400	1
06971	Vanadium	7440-62-2	30.7	1.08	0.249	1
06972	Zinc	7440-66-6	643	4.33	0.833	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	5.87	0.433	0.0714	2
06125	Arsenic	7440-38-2	6.99	0.866	0.162	2
06127	Beryllium	7440-41-7	0.573	0.216	0.0154	2
06128	Cadmium	7440-43-9	1.92	0.216	0.0498	2
06131	Chromium	7440-47-3	141	0.866	0.108	2
06141	Selenium	7782-49-2	< 0.866	0.866	0.108	2
06142	Silver	7440-22-4	0.411	0.216	0.0216	2
06145	Thallium	7440-28-0	< 0.216	0.216	0.0325	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.447	0.216	0.0108	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260040
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	9.4	0.50	0.50	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160633AA	03/04/2016 01:31	Kevin A Sposito	37.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016 12:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016 12:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016 12:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016 00:44	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016 09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/04/2016 21:53	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016 00:43	Kirby B Turner	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016 22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/04/2016 22:58	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016 18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016 14:14	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016 17:49	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260040
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

402--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 16:10	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 11:44	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 11:44	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 11:44	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 11:44	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:07	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 11:44	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/06/2016 22:07	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 11:44	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:23	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-2-4-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260041
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

424--

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	150	17	6	0.8
11995	Benzene	71-43-2	< 4	4	0.4	0.8
11995	Bromodichloromethane	75-27-4	< 4	4	0.9	0.8
11995	Bromoform	75-25-2	< 4	4	0.9	0.8
11995	Bromomethane	74-83-9	< 4	4	2	0.8
11995	2-Butanone	78-93-3	18	9	3	0.8
11995	Carbon Disulfide	75-15-0	< 4	4	0.9	0.8
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.9	0.8
11995	Chlorobenzene	108-90-7	< 4	4	0.9	0.8
11995	Chloroethane	75-00-3	< 4	4	2	0.8
11995	Chloroform	67-66-3	< 4	4	0.9	0.8
11995	Chloromethane	74-87-3	< 4	4	2	0.8
11995	Cyclohexane	110-82-7	< 4	4	0.9	0.8
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.8
11995	Dibromochloromethane	124-48-1	< 4	4	0.9	0.8
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.9	0.8
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.9	0.8
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.9	0.8
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.9	0.8
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.8
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.9	0.8
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.9	0.8
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.9	0.8
11995	cis-1,2-Dichloroethene	156-59-2	5	4	0.9	0.8
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.9	0.8
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.9	0.8
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.9	0.8
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.9	0.8
11995	Ethylbenzene	100-41-4	< 4	4	0.9	0.8
11995	Freon 113	76-13-1	< 9	9	2	0.8
11995	2-Hexanone	591-78-6	< 9	9	3	0.8
11995	Isopropylbenzene	98-82-8	< 4	4	0.9	0.8
11995	Methyl Acetate	79-20-9	< 4	4	2	0.8
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 4	4	0.4	0.8
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.8
11995	Methylcyclohexane	108-87-2	< 4	4	0.9	0.8
11995	Methylene Chloride	75-09-2	< 4	4	2	0.8
11995	Styrene	100-42-5	< 4	4	0.9	0.8
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.9	0.8
11995	Tetrachloroethene	127-18-4	< 4	4	0.9	0.8
11995	Toluene	108-88-3	< 4	4	0.9	0.8
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.9	0.8
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.9	0.8
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.9	0.8
11995	Trichloroethene	79-01-6	< 4	4	0.9	0.8
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.8
11995	Vinyl Chloride	75-01-4	< 4	4	0.9	0.8
11995	Xylene (Total)	1330-20-7	< 4	4	0.9	0.8
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 92	92	18	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-2-4-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260041
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 92	92	18	1
10726	Acetophenone	98-86-2	570	180	90	1
10726	Anthracene	120-12-7	170	92	18	1
10726	Atrazine	1912-24-9	< 900	900	180	1
10726	Benzaldehyde	100-52-7	< 900	900	360	1
10726	Benzo(a)anthracene	56-55-3	310	92	18	1
10726	Benzo(a)pyrene	50-32-8	440	92	18	1
10726	Benzo(b)fluoranthene	205-99-2	< 92	92	18	1
10726	Benzo(g,h,i)perylene	191-24-2	520	92	18	1
10726	Benzo(k)fluoranthene	207-08-9	810	92	18	1
10726	1,1'-Biphenyl	92-52-4	< 180	180	90	1
10726	4-Bromophenyl-phenylether	101-55-3	< 180	180	90	1
10726	Butylbenzylphthalate	85-68-7	2,600	900	360	1
10726	Di-n-butylphthalate	84-74-2	< 900	900	360	1
10726	Caprolactam	105-60-2	< 900	900	180	1
10726	Carbazole	86-74-8	< 180	180	90	1
10726	4-Chloro-3-methylphenol	59-50-7	< 180	180	90	1
10726	4-Chloroaniline	106-47-8	< 360	360	180	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 180	180	90	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 180	180	90	1
10726	2-Chloronaphthalene	91-58-7	< 180	180	36	1
10726	2-Chlorophenol	95-57-8	< 180	180	90	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 180	180	90	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 180	180	90	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	400	92	18	1
10726	Dibenz(a,h)anthracene	53-70-3	< 92	92	18	1
10726	Dibenzofuran	132-64-9	< 180	180	90	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,800	1,800	540	1
10726	2,4-Dichlorophenol	120-83-2	< 180	180	90	1
10726	Diethylphthalate	84-66-2	1,100	900	360	1
10726	2,4-Dimethylphenol	105-67-9	< 180	180	90	1
10726	Dimethylphthalate	131-11-3	< 900	900	360	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,700	2,700	900	1
10726	2,4-Dinitrophenol	51-28-5	< 5,400	5,400	1,600	1
10726	2,4-Dinitrotoluene	121-14-2	< 900	900	360	1
10726	2,6-Dinitrotoluene	606-20-2	< 180	180	90	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	4,500	920	360	1
10726	Fluoranthene	206-44-0	550	92	18	1
10726	Fluorene	86-73-7	< 92	92	18	1
10726	Hexachlorobenzene	118-74-1	< 92	92	18	1
10726	Hexachlorobutadiene	87-68-3	< 180	180	90	1
10726	Hexachlorocyclopentadiene	77-47-4	< 2,700	2,700	900	1
10726	Hexachloroethane	67-72-1	< 900	900	180	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	380	92	18	1
10726	Isophorone	78-59-1	< 180	180	90	1
10726	2-Methylnaphthalene	91-57-6	350	92	18	1
10726	2-Methylphenol	95-48-7	< 180	180	90	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-2-4-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260041
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 180	180	90	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	310	92	18	1
10726	2-Nitroaniline	88-74-4	< 180	180	90	1
10726	3-Nitroaniline	99-09-2	< 900	900	360	1
10726	4-Nitroaniline	100-01-6	< 900	900	360	1
10726	Nitrobenzene	98-95-3	< 180	180	90	1
10726	2-Nitrophenol	88-75-5	< 180	180	90	1
10726	4-Nitrophenol	100-02-7	< 2,700	2,700	900	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 180	180	90	1
10726	N-Nitrosodiphenylamine	86-30-6	< 180	180	90	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 900	900	360	1
10726	Pentachlorophenol	87-86-5	< 920	920	180	1
10726	Phenanthrene	85-01-8	450	92	18	1
10726	Phenol	108-95-2	920	180	90	1
10726	Pyrene	129-00-0	680	92	18	1
10726	2,4,5-Trichlorophenol	95-95-4	< 180	180	90	1
10726	2,4,6-Trichlorophenol	88-06-2	< 180	180	90	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	42	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	42	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	42	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	42	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	42	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	42	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	840	1
13413	2-Nitrotoluene	88-72-2	< 130	130	42	1
13413	3-Nitrotoluene	99-08-1	< 130	130	42	1
13413	4-Nitrotoluene	99-99-0	190	130	42	1
13413	PETN	78-11-5	< 2,500	2,500	840	1
13413	RDX	121-82-4	< 130	130	42	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	83	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	42	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 180	180	39	10

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-2-4-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260041
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 180	180	50	10
10885	PCB-1232	11141-16-5	< 180	180	87	10
10885	PCB-1242	53469-21-9	< 180	180	36	10
10885	PCB-1248	12672-29-6	1,400	180	36	10
10885	PCB-1254	11097-69-1	1,300	180	36	10
10885	PCB-1260	11096-82-5	280	180	53	10
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.5	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	10,800	43.2	8.28	1
06946	Barium	7440-39-3	217	1.08	0.130	1
01650	Calcium	7440-70-2	13,300	43.2	3.60	1
06952	Cobalt	7440-48-4	8.90	1.08	0.0876	1
06953	Copper	7440-50-8	227	2.16	0.346	1
01654	Iron	7439-89-6	40,200	216	18.0	5
06955	Lead	7439-92-1	531	3.24	0.443	1
01657	Magnesium	7439-95-4	6,900	21.6	1.81	1
06958	Manganese	7439-96-5	479	1.08	0.130	1
06961	Nickel	7440-02-0	153	2.16	0.249	1
01662	Potassium	7440-09-7	4,940	108	18.2	1
01667	Sodium	7440-23-5	614	216	18.1	1
06970	Titanium	7440-32-6	1,480	10.8	2.00	5
06971	Vanadium	7440-62-2	35.6	1.08	0.249	1
06972	Zinc	7440-66-6	1,430	21.6	4.16	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	9.68	0.432	0.0713	2
06125	Arsenic	7440-38-2	10.5	0.865	0.162	2
06127	Beryllium	7440-41-7	0.317	0.216	0.0153	2
06128	Cadmium	7440-43-9	3.24	0.216	0.0497	2
06131	Chromium	7440-47-3	72.6	0.865	0.108	2
06141	Selenium	7782-49-2	< 0.865	0.865	0.108	2
06142	Silver	7440-22-4	< 0.216	0.216	0.0216	2
06145	Thallium	7440-28-0	0.237	0.216	0.0324	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.422	0.215	0.0107	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	8.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-2-4-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260041
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016	13:30	Jennifer K Howe	0.8
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016	12:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016	12:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016	12:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	01:08	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/04/2016	22:30	Jessica L Miller	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/17/2016	22:36	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016	01:06	Kirby B Turner	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016	22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016	00:47	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016	18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	14:49	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	18:34	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	18:34	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	16:48	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	18:34	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:18	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:18	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:18	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:18	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:27	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:18	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-2-4-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260041
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 12:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160610637001A	03/06/2016 22:27	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 12:18	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:25	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260042
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 14:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 21	21	7	1.04
11995	Benzene	71-43-2	< 5	5	0.5	1.04
11995	Bromodichloromethane	75-27-4	< 5	5	1	1.04
11995	Bromoform	75-25-2	< 5	5	1	1.04
11995	Bromomethane	74-83-9	< 5	5	2	1.04
11995	2-Butanone	78-93-3	< 11	11	4	1.04
11995	Carbon Disulfide	75-15-0	< 5	5	1	1.04
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1.04
11995	Chlorobenzene	108-90-7	< 5	5	1	1.04
11995	Chloroethane	75-00-3	< 5	5	2	1.04
11995	Chloroform	67-66-3	< 5	5	1	1.04
11995	Chloromethane	74-87-3	< 5	5	2	1.04
11995	Cyclohexane	110-82-7	< 5	5	1	1.04
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1.04
11995	Dibromochloromethane	124-48-1	< 5	5	1	1.04
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1.04
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1.04
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1.04
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1.04
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1.04
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1.04
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1.04
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1.04
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1.04
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1.04
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1.04
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1.04
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1.04
11995	Ethylbenzene	100-41-4	< 5	5	1	1.04
11995	Freon 113	76-13-1	< 11	11	2	1.04
11995	2-Hexanone	591-78-6	< 11	11	3	1.04
11995	Isopropylbenzene	98-82-8	< 5	5	1	1.04
11995	Methyl Acetate	79-20-9	< 5	5	2	1.04
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1.04
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.04
11995	Methylcyclohexane	108-87-2	< 5	5	1	1.04
11995	Methylene Chloride	75-09-2	< 5	5	2	1.04
11995	Styrene	100-42-5	< 5	5	1	1.04
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1.04
11995	Tetrachloroethene	127-18-4	< 5	5	1	1.04
11995	Toluene	108-88-3	< 5	5	1	1.04
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1.04
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1.04
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1.04
11995	Trichloroethene	79-01-6	< 5	5	1	1.04
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1.04
11995	Vinyl Chloride	75-01-4	< 5	5	1	1.04
11995	Xylene (Total)	1330-20-7	< 5	5	1	1.04
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 17	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260042
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 14:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 17	17	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 17	17	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	68	1
10726	Benzo(a)anthracene	56-55-3	< 17	17	3	1
10726	Benzo(a)pyrene	50-32-8	< 17	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 17	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 17	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 17	17	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	68	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	68	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 68	68	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 33	33	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 17	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 17	17	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	68	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	68	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 510	510	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	68	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 170	170	68	1
10726	Fluoranthene	206-44-0	< 17	17	3	1
10726	Fluorene	86-73-7	< 17	17	3	1
10726	Hexachlorobenzene	118-74-1	< 17	17	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 510	510	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 17	17	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 17	17	3	1
10726	2-Methylphenol	95-48-7	< 34	34	17	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260042
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 14:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 17	17	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	68	1
10726	4-Nitroaniline	100-01-6	< 170	170	68	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 510	510	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	68	1
10726	Pentachlorophenol	87-86-5	< 170	170	34	1
10726	Phenanthrene	85-01-8	< 17	17	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 17	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	820	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,400	2,400	820	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.7	1
10885	PCB-1221	11104-28-2	< 17	17	4.7	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260042
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 14:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 17	17	8.1	1
10885	PCB-1242	53469-21-9	< 17	17	3.4	1
10885	PCB-1248	12672-29-6	< 17	17	3.4	1
10885	PCB-1254	11097-69-1	< 17	17	3.4	1
10885	PCB-1260	11096-82-5	< 17	17	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,950	40.2	7.69	1
06946	Barium	7440-39-3	16.2	1.00	0.121	1
01650	Calcium	7440-70-2	278	40.2	3.34	1
06952	Cobalt	7440-48-4	1.68	1.00	0.0814	1
06953	Copper	7440-50-8	8.47	2.01	0.321	1
01654	Iron	7439-89-6	5,040	40.2	3.34	1
06955	Lead	7439-92-1	< 3.01	3.01	0.412	1
01657	Magnesium	7439-95-4	482	20.1	1.68	1
06958	Manganese	7439-96-5	115	1.00	0.121	1
06961	Nickel	7440-02-0	3.31	2.01	0.231	1
01662	Potassium	7440-09-7	439	100	16.9	1
01667	Sodium	7440-23-5	< 201	201	16.8	1
06970	Titanium	7440-32-6	467	2.01	0.372	1
06971	Vanadium	7440-62-2	11.0	1.00	0.231	1
06972	Zinc	7440-66-6	9.22	4.02	0.773	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.402	0.402	0.0663	2
06125	Arsenic	7440-38-2	< 0.804	0.804	0.151	2
06127	Beryllium	7440-41-7	< 0.201	0.201	0.0143	2
06128	Cadmium	7440-43-9	< 0.201	0.201	0.0462	2
06131	Chromium	7440-47-3	9.06	0.804	0.100	2
06141	Selenium	7782-49-2	< 0.804	0.804	0.100	2
06142	Silver	7440-22-4	< 0.201	0.201	0.0201	2
06145	Thallium	7440-28-0	< 0.201	0.201	0.0301	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.200	0.200	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	2.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260042
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 14:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016	13:52	Jennifer K Howe	1.04
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016	14:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016	14:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016	14:50	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	01:31	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/04/2016	23:07	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016	01:17	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016	22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016	01:05	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016	18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	14:52	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	16:52	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:21	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:21	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:21	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:21	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:29	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:21	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	12:21	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	12:21	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260042
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 14:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

412--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:27	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-022316 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260043
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:00

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

2-23T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 20	20	7	1
11995	Benzene	71-43-2	< 5	5	0.5	1
11995	Bromodichloromethane	75-27-4	< 5	5	1	1
11995	Bromoform	75-25-2	< 5	5	1	1
11995	Bromomethane	74-83-9	< 5	5	2	1
11995	2-Butanone	78-93-3	< 10	10	4	1
11995	Carbon Disulfide	75-15-0	< 5	5	1	1
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1
11995	Chlorobenzene	108-90-7	< 5	5	1	1
11995	Chloroethane	75-00-3	< 5	5	2	1
11995	Chloroform	67-66-3	< 5	5	1	1
11995	Chloromethane	74-87-3	< 5	5	2	1
11995	Cyclohexane	110-82-7	< 5	5	1	1
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11995	Dibromochloromethane	124-48-1	< 5	5	1	1
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1
11995	Ethylbenzene	100-41-4	< 5	5	1	1
11995	Freon 113	76-13-1	< 10	10	2	1
11995	2-Hexanone	591-78-6	< 10	10	3	1
11995	Isopropylbenzene	98-82-8	< 5	5	1	1
11995	Methyl Acetate	79-20-9	< 5	5	2	1
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11995	Methylcyclohexane	108-87-2	< 5	5	1	1
11995	Methylene Chloride	75-09-2	< 5	5	2	1
11995	Styrene	100-42-5	< 5	5	1	1
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1
11995	Tetrachloroethene	127-18-4	< 5	5	1	1
11995	Toluene	108-88-3	< 5	5	1	1
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1
11995	Trichloroethene	79-01-6	< 5	5	1	1
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1
11995	Vinyl Chloride	75-01-4	< 5	5	1	1
11995	Xylene (Total)	1330-20-7	< 5	5	1	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: TB-022316 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260043
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:00

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

2-23T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160593AA	02/28/2016 20:54	Christopher G Torres	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016 16:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260044
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0867-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 18	18	6	0.76
11995	Benzene	71-43-2	< 5	5	0.5	0.76
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.76
11995	Bromoform	75-25-2	< 5	5	0.9	0.76
11995	Bromomethane	74-83-9	< 5	5	2	0.76
11995	2-Butanone	78-93-3	< 9	9	4	0.76
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.76
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.76
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.76
11995	Chloroethane	75-00-3	< 5	5	2	0.76
11995	Chloroform	67-66-3	< 5	5	0.9	0.76
11995	Chloromethane	74-87-3	< 5	5	2	0.76
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.76
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.76
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.76
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.76
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.76
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.76
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.76
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.76
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.76
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.76
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.76
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.76
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.76
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.76
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.76
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.76
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.76
11995	Freon 113	76-13-1	< 9	9	2	0.76
11995	2-Hexanone	591-78-6	< 9	9	3	0.76
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.76
11995	Methyl Acetate	79-20-9	< 5	5	2	0.76
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.76
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.76
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.76
11995	Methylene Chloride	75-09-2	< 5	5	2	0.76
11995	Styrene	100-42-5	< 5	5	0.9	0.76
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.76
11995	Tetrachloroethene	127-18-4	< 5	5	0.9	0.76
11995	Toluene	108-88-3	< 5	5	0.9	0.76
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.76
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.76
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.76
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.76
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.76
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.76
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.76
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 20	20	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260044
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0867-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 20	20	4	1
10726	Acetophenone	98-86-2	< 40	40	20	1
10726	Anthracene	120-12-7	< 20	20	4	1
10726	Atrazine	1912-24-9	< 200	200	40	1
10726	Benzaldehyde	100-52-7	< 200	200	80	1
10726	Benzo(a)anthracene	56-55-3	< 20	20	4	1
10726	Benzo(a)pyrene	50-32-8	< 20	20	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 20	20	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 20	20	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 20	20	4	1
10726	1,1'-Biphenyl	92-52-4	< 40	40	20	1
10726	4-Bromophenyl-phenylether	101-55-3	< 40	40	20	1
10726	Butylbenzylphthalate	85-68-7	< 200	200	80	1
10726	Di-n-butylphthalate	84-74-2	< 200	200	80	1
10726	Caprolactam	105-60-2	< 200	200	40	1
10726	Carbazole	86-74-8	< 40	40	20	1
10726	4-Chloro-3-methylphenol	59-50-7	< 40	40	20	1
10726	4-Chloroaniline	106-47-8	< 80	80	40	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 40	40	20	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 40	40	20	1
10726	2-Chloronaphthalene	91-58-7	< 39	39	8	1
10726	2-Chlorophenol	95-57-8	< 40	40	20	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 40	40	20	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 40	40	20	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 20	20	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 20	20	4	1
10726	Dibenzofuran	132-64-9	< 40	40	20	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 400	400	120	1
10726	2,4-Dichlorophenol	120-83-2	< 40	40	20	1
10726	Diethylphthalate	84-66-2	< 200	200	80	1
10726	2,4-Dimethylphenol	105-67-9	< 40	40	20	1
10726	Dimethylphthalate	131-11-3	< 200	200	80	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 600	600	200	1
10726	2,4-Dinitrophenol	51-28-5	< 1,200	1,200	360	1
10726	2,4-Dinitrotoluene	121-14-2	< 200	200	80	1
10726	2,6-Dinitrotoluene	606-20-2	< 40	40	20	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 200	200	80	1
10726	Fluoranthene	206-44-0	< 20	20	4	1
10726	Fluorene	86-73-7	< 20	20	4	1
10726	Hexachlorobenzene	118-74-1	< 20	20	4	1
10726	Hexachlorobutadiene	87-68-3	< 40	40	20	1
10726	Hexachlorocyclopentadiene	77-47-4	< 600	600	200	1
10726	Hexachloroethane	67-72-1	< 200	200	40	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 20	20	4	1
10726	Isophorone	78-59-1	< 40	40	20	1
10726	2-Methylnaphthalene	91-57-6	< 20	20	4	1
10726	2-Methylphenol	95-48-7	< 40	40	20	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260044
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0867-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 40	40	20	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 20	20	4	1
10726	2-Nitroaniline	88-74-4	< 40	40	20	1
10726	3-Nitroaniline	99-09-2	< 200	200	80	1
10726	4-Nitroaniline	100-01-6	< 200	200	80	1
10726	Nitrobenzene	98-95-3	< 40	40	20	1
10726	2-Nitrophenol	88-75-5	< 40	40	20	1
10726	4-Nitrophenol	100-02-7	< 600	600	200	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 40	40	20	1
10726	N-Nitrosodiphenylamine	86-30-6	< 40	40	20	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 200	200	80	1
10726	Pentachlorophenol	87-86-5	< 200	200	40	1
10726	Phenanthrene	85-01-8	< 20	20	4	1
10726	Phenol	108-95-2	< 40	40	20	1
10726	Pyrene	129-00-0	< 20	20	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 40	40	20	1
10726	2,4,6-Trichlorophenol	88-06-2	< 40	40	20	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	46	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	46	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 350	350	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 350	350	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	46	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	46	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	46	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	46	1
13413	HMX	2691-41-0	< 350	350	120	1
13413	Nitrobenzene	98-95-3	< 350	350	120	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	930	1
13413	2-Nitrotoluene	88-72-2	< 140	140	46	1
13413	3-Nitrotoluene	99-08-1	< 140	140	46	1
13413	4-Nitrotoluene	99-99-0	< 140	140	46	1
13413	PETN	78-11-5	< 2,800	2,800	930	1
13413	RDX	121-82-4	< 140	140	46	1
13413	Tetryl	479-45-8	< 350	350	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	46	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	46	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 21	21	4.3	1
10885	PCB-1221	11104-28-2	< 21	21	5.6	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
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Analysis Report

Sample Description: SBO-08-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260044
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0867-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 21	21	9.7	1
10885	PCB-1242	53469-21-9	< 21	21	4.0	1
10885	PCB-1248	12672-29-6	< 21	21	4.0	1
10885	PCB-1254	11097-69-1	63	21	4.0	1
10885	PCB-1260	11096-82-5	< 21	21	5.9	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.0	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	46,200	47.9	9.17	1
06946	Barium	7440-39-3	128	1.20	0.144	1
01650	Calcium	7440-70-2	835	47.9	3.99	1
06952	Cobalt	7440-48-4	7.77	1.20	0.0970	1
06953	Copper	7440-50-8	49.2	2.39	0.383	1
01654	Iron	7439-89-6	37,200	239	19.9	5
06955	Lead	7439-92-1	14.3	3.59	0.491	1
01657	Magnesium	7439-95-4	3,480	23.9	2.00	1
06958	Manganese	7439-96-5	228	1.20	0.144	1
06961	Nickel	7440-02-0	15.1	2.39	0.275	1
01662	Potassium	7440-09-7	2,930	120	20.1	1
01667	Sodium	7440-23-5	< 239	239	20.0	1
06970	Titanium	7440-32-6	2,050	12.0	2.21	5
06971	Vanadium	7440-62-2	78.2	1.20	0.275	1
06972	Zinc	7440-66-6	64.8	4.79	0.922	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.479	0.479	0.0790	2
06125	Arsenic	7440-38-2	3.89	0.958	0.180	2
06127	Beryllium	7440-41-7	1.24	0.239	0.0170	2
06128	Cadmium	7440-43-9	< 0.239	0.239	0.0551	2
06131	Chromium	7440-47-3	34.4	0.958	0.120	2
06141	Selenium	7782-49-2	< 0.958	0.958	0.120	2
06142	Silver	7440-22-4	< 0.239	0.239	0.0239	2
06145	Thallium	7440-28-0	0.505	0.239	0.0359	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.231	0.231	0.0116	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	17.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-08-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260044
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0867-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016	14:15	Jennifer K Howe	0.76
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016	15:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016	15:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016	15:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	01:54	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016	00:57	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016	01:28	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016	22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016	01:24	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016	18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	14:55	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	18:37	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	18:37	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	16:55	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:24	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:24	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:24	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:24	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:30	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:24	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	12:24	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	12:24	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-08-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260044
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0867-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:29	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260045
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0812-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	22	19	7	0.91
11995	Benzene	71-43-2	< 5	5	0.5	0.91
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.91
11995	Bromoform	75-25-2	< 5	5	1	0.91
11995	Bromomethane	74-83-9	< 5	5	2	0.91
11995	2-Butanone	78-93-3	< 10	10	4	0.91
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.91
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.91
11995	Chlorobenzene	108-90-7	< 5	5	1	0.91
11995	Chloroethane	75-00-3	< 5	5	2	0.91
11995	Chloroform	67-66-3	< 5	5	1	0.91
11995	Chloromethane	74-87-3	< 5	5	2	0.91
11995	Cyclohexane	110-82-7	< 5	5	1	0.91
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.91
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.91
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.91
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.91
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.91
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.91
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.91
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.91
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.91
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.91
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.91
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.91
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.91
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.91
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.91
11995	Ethylbenzene	100-41-4	< 5	5	1	0.91
11995	Freon 113	76-13-1	< 10	10	2	0.91
11995	2-Hexanone	591-78-6	< 10	10	3	0.91
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.91
11995	Methyl Acetate	79-20-9	< 5	5	2	0.91
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.91
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.91
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.91
11995	Methylene Chloride	75-09-2	< 5	5	2	0.91
11995	Styrene	100-42-5	< 5	5	1	0.91
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.91
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.91
11995	Toluene	108-88-3	< 5	5	1	0.91
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.91
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.91
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.91
11995	Trichloroethene	79-01-6	< 5	5	1	0.91
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.91
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.91
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.91
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260045
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0812-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 18	18	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	69	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	3	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	69	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	69	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 69	69	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 34	34	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	69	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	69	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 520	520	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	310	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	69	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	69	1
10726	Fluoranthene	206-44-0	< 18	18	3	1
10726	Fluorene	86-73-7	< 18	18	3	1
10726	Hexachlorobenzene	118-74-1	< 18	18	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 520	520	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	3	1
10726	2-Methylphenol	95-48-7	< 34	34	17	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260045
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0812-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	69	1
10726	4-Nitroaniline	100-01-6	< 170	170	69	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 520	520	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	69	1
10726	Pentachlorophenol	87-86-5	< 180	180	34	1
10726	Phenanthrene	85-01-8	< 18	18	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 18	18	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	820	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,500	2,500	820	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.7	1
10885	PCB-1221	11104-28-2	< 18	18	4.7	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-08-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260045
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0812-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 18	18	8.2	1
10885	PCB-1242	53469-21-9	< 18	18	3.4	1
10885	PCB-1248	12672-29-6	< 18	18	3.4	1
10885	PCB-1254	11097-69-1	< 18	18	3.4	1
10885	PCB-1260	11096-82-5	< 18	18	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.2	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	6,050	40.5	7.76	1
06946	Barium	7440-39-3	19.8	1.01	0.122	1
01650	Calcium	7440-70-2	155	40.5	3.37	1
06952	Cobalt	7440-48-4	1.80	1.01	0.0821	1
06953	Copper	7440-50-8	7.95	2.03	0.324	1
01654	Iron	7439-89-6	5,400	40.5	3.37	1
06955	Lead	7439-92-1	< 3.04	3.04	0.416	1
01657	Magnesium	7439-95-4	459	20.3	1.69	1
06958	Manganese	7439-96-5	126	1.01	0.122	1
06961	Nickel	7440-02-0	2.04	2.03	0.233	1
01662	Potassium	7440-09-7	378	101	17.0	1
01667	Sodium	7440-23-5	< 203	203	16.9	1
06970	Titanium	7440-32-6	409	2.03	0.375	1
06971	Vanadium	7440-62-2	12.2	1.01	0.233	1
06972	Zinc	7440-66-6	7.98	4.05	0.780	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.405	0.405	0.0669	2
06125	Arsenic	7440-38-2	1.01	0.811	0.152	2
06127	Beryllium	7440-41-7	0.218	0.203	0.0144	2
06128	Cadmium	7440-43-9	< 0.203	0.203	0.0466	2
06131	Chromium	7440-47-3	6.27	0.811	0.101	2
06141	Selenium	7782-49-2	< 0.811	0.811	0.101	2
06142	Silver	7440-22-4	< 0.203	0.203	0.0203	2
06145	Thallium	7440-28-0	< 0.203	0.203	0.0304	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.205	0.205	0.0102	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260045
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0812-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016 14:37	Jennifer K Howe	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016 15:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016 15:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016 15:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016 02:19	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016 09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016 01:33	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016 01:40	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016 22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016 01:42	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016 18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016 14:59	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 16:59	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 12:27	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 12:27	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 12:27	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 12:27	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:32	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 12:27	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016 12:27	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 12:27	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-08-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260045
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0812-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:03	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260046
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0802-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	50	21	7	0.8
11995	Benzene	71-43-2	< 5	5	0.5	0.8
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.8
11995	Bromoform	75-25-2	< 5	5	1	0.8
11995	Bromomethane	74-83-9	< 5	5	2	0.8
11995	2-Butanone	78-93-3	< 11	11	4	0.8
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.8
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.8
11995	Chlorobenzene	108-90-7	< 5	5	1	0.8
11995	Chloroethane	75-00-3	< 5	5	2	0.8
11995	Chloroform	67-66-3	< 5	5	1	0.8
11995	Chloromethane	74-87-3	< 5	5	2	0.8
11995	Cyclohexane	110-82-7	< 5	5	1	0.8
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.8
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.8
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.8
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.8
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.8
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.8
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.8
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.8
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.8
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.8
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.8
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.8
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.8
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.8
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.8
11995	Ethylbenzene	100-41-4	< 5	5	1	0.8
11995	Freon 113	76-13-1	< 11	11	2	0.8
11995	2-Hexanone	591-78-6	< 11	11	3	0.8
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.8
11995	Methyl Acetate	79-20-9	< 5	5	2	0.8
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.8
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.8
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.8
11995	Methylene Chloride	75-09-2	< 5	5	2	0.8
11995	Styrene	100-42-5	< 5	5	1	0.8
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.8
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.8
11995	Toluene	108-88-3	< 5	5	1	0.8
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.8
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.8
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.8
11995	Trichloroethene	79-01-6	< 5	5	1	0.8
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.8
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.8
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.8
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 570	570	110	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260046
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0802-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 570	570	110	5
10726	Acetophenone	98-86-2	< 1,100	1,100	560	5
10726	Anthracene	120-12-7	< 570	570	110	5
10726	Atrazine	1912-24-9	< 5,600	5,600	1,100	5
10726	Benzaldehyde	100-52-7	< 5,600	5,600	2,200	5
10726	Benzo(a)anthracene	56-55-3	1,200	570	110	5
10726	Benzo(a)pyrene	50-32-8	1,900	570	110	5
10726	Benzo(b)fluoranthene	205-99-2	2,900	570	110	5
10726	Benzo(g,h,i)perylene	191-24-2	2,000	570	110	5
10726	Benzo(k)fluoranthene	207-08-9	870	570	110	5
10726	1,1'-Biphenyl	92-52-4	< 1,100	1,100	560	5
10726	4-Bromophenyl-phenylether	101-55-3	< 1,100	1,100	560	5
10726	Butylbenzylphthalate	85-68-7	< 5,600	5,600	2,200	5
10726	Di-n-butylphthalate	84-74-2	< 5,600	5,600	2,200	5
10726	Caprolactam	105-60-2	< 5,600	5,600	1,100	5
10726	Carbazole	86-74-8	< 1,100	1,100	560	5
10726	4-Chloro-3-methylphenol	59-50-7	< 1,100	1,100	560	5
10726	4-Chloroaniline	106-47-8	< 2,200	2,200	1,100	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 1,100	1,100	560	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 1,100	1,100	560	5
10726	2-Chloronaphthalene	91-58-7	< 1,100	1,100	220	5
10726	2-Chlorophenol	95-57-8	< 1,100	1,100	560	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 1,100	1,100	560	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1,100	1,100	560	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,400	570	110	5
10726	Dibenz(a,h)anthracene	53-70-3	710	570	110	5
10726	Dibenzofuran	132-64-9	< 1,100	1,100	560	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 11,000	11,000	3,300	5
10726	2,4-Dichlorophenol	120-83-2	< 1,100	1,100	560	5
10726	Diethylphthalate	84-66-2	< 5,600	5,600	2,200	5
10726	2,4-Dimethylphenol	105-67-9	< 1,100	1,100	560	5
10726	Dimethylphthalate	131-11-3	< 5,600	5,600	2,200	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 17,000	17,000	5,600	5
10726	2,4-Dinitrophenol	51-28-5	< 33,000	33,000	10,000	5
10726	2,4-Dinitrotoluene	121-14-2	< 5,600	5,600	2,200	5
10726	2,6-Dinitrotoluene	606-20-2	< 1,100	1,100	560	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 5,700	5,700	2,200	5
10726	Fluoranthene	206-44-0	1,900	570	110	5
10726	Fluorene	86-73-7	< 570	570	110	5
10726	Hexachlorobenzene	118-74-1	< 570	570	110	5
10726	Hexachlorobutadiene	87-68-3	< 1,100	1,100	560	5
10726	Hexachlorocyclopentadiene	77-47-4	< 17,000	17,000	5,600	5
10726	Hexachloroethane	67-72-1	< 5,600	5,600	1,100	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,600	570	110	5
10726	Isophorone	78-59-1	< 1,100	1,100	560	5
10726	2-Methylnaphthalene	91-57-6	< 570	570	110	5
10726	2-Methylphenol	95-48-7	< 1,100	1,100	560	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260046
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0802-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 1,100	1,100	560	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 570	570	110	5
10726	2-Nitroaniline	88-74-4	< 1,100	1,100	560	5
10726	3-Nitroaniline	99-09-2	< 5,600	5,600	2,200	5
10726	4-Nitroaniline	100-01-6	< 5,600	5,600	2,200	5
10726	Nitrobenzene	98-95-3	< 1,100	1,100	560	5
10726	2-Nitrophenol	88-75-5	< 1,100	1,100	560	5
10726	4-Nitrophenol	100-02-7	< 17,000	17,000	5,600	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 1,100	1,100	560	5
10726	N-Nitrosodiphenylamine	86-30-6	< 1,100	1,100	560	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 5,600	5,600	2,200	5
10726	Pentachlorophenol	87-86-5	< 5,700	5,700	1,100	5
10726	Phenanthrene	85-01-8	1,100	570	110	5
10726	Phenol	108-95-2	< 1,100	1,100	560	5
10726	Pyrene	129-00-0	1,900	570	110	5
10726	2,4,5-Trichlorophenol	95-95-4	< 1,100	1,100	560	5
10726	2,4,6-Trichlorophenol	88-06-2	< 1,100	1,100	560	5
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 150	150	51	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 150	150	51	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 390	390	130	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 390	390	130	1
13413	3,5-Dinitroaniline	618-87-1	< 150	150	51	1
13413	1,3-Dinitrobenzene	99-65-0	< 150	150	51	1
13413	2,4-Dinitrotoluene	121-14-2	< 150	150	51	1
13413	2,6-Dinitrotoluene	606-20-2	< 150	150	51	1
13413	HMX	2691-41-0	< 390	390	130	1
13413	Nitrobenzene	98-95-3	< 390	390	130	1
13413	Nitroglycerin	55-63-0	< 3,100	3,100	1,000	1
13413	2-Nitrotoluene	88-72-2	< 150	150	51	1
13413	3-Nitrotoluene	99-08-1	< 150	150	51	1
13413	4-Nitrotoluene	99-99-0	< 150	150	51	1
13413	PETN	78-11-5	< 3,100	3,100	1,000	1
13413	RDX	121-82-4	< 150	150	51	1
13413	Tetryl	479-45-8	< 390	390	130	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 150	150	51	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 150	150	51	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 450	450	95	20

*=This limit was used in the evaluation of the final result

Sample Description: SBO-08-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260046
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0802-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 450	450	120	20
10885	PCB-1232	11141-16-5	< 450	450	210	20
10885	PCB-1242	53469-21-9	< 450	450	87	20
10885	PCB-1248	12672-29-6	6,300	450	87	20
10885	PCB-1254	11097-69-1	4,500	450	87	20
10885	PCB-1260	11096-82-5	< 450	450	130	20
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 13	13	6.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	20,600	53.2	10.2	1
06946	Barium	7440-39-3	738	1.33	0.159	1
01650	Calcium	7440-70-2	12,900	53.2	4.43	1
06952	Cobalt	7440-48-4	21.9	1.33	0.108	1
06953	Copper	7440-50-8	519	2.66	0.425	1
01654	Iron	7439-89-6	106,000	266	22.1	5
06955	Lead	7439-92-1	606	3.99	0.545	1
01657	Magnesium	7439-95-4	5,000	26.6	2.22	1
06958	Manganese	7439-96-5	1,080	1.33	0.159	1
06961	Nickel	7440-02-0	185	2.66	0.306	1
01662	Potassium	7440-09-7	2,070	133	22.3	1
01667	Sodium	7440-23-5	553	266	22.2	1
06970	Titanium	7440-32-6	888	2.66	0.492	1
06971	Vanadium	7440-62-2	47.8	1.33	0.306	1
06972	Zinc	7440-66-6	1,940	26.6	5.12	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	20.3	0.532	0.0877	2
06125	Arsenic	7440-38-2	14.0	1.06	0.199	2
06127	Beryllium	7440-41-7	0.622	0.266	0.0189	2
06128	Cadmium	7440-43-9	5.74	0.266	0.0611	2
06131	Chromium	7440-47-3	178	1.06	0.133	2
06141	Selenium	7782-49-2	< 1.06	1.06	0.133	2
06142	Silver	7440-22-4	0.788	0.266	0.0266	2
06145	Thallium	7440-28-0	< 0.266	0.266	0.0399	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	4.07	2.63	0.131	10
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	25.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-08-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260046
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0802-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016 16:07	Jennifer K Howe	0.8
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016 15:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016 15:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016 15:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016 02:43	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016 09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016 02:10	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016 01:51	Kirby B Turner	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016 22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016 02:00	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016 18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016 15:02	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016 18:40	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 17:02	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 18:40	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 12:30	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 12:30	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 12:30	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 12:30	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:34	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 12:30	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/06/2016 22:34	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 12:30	Deborah A Krady	2

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Analysis Report

Sample Description: SBO-08-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260046
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:15 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0802-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 11:00	Damary Valentin	10
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260047
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0702-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,200	1,200	420	49.9
11995	Benzene	71-43-2	< 300	300	30	49.9
11995	Bromodichloromethane	75-27-4	< 300	300	60	49.9
11995	Bromoform	75-25-2	< 300	300	60	49.9
11995	Bromomethane	74-83-9	< 300	300	120	49.9
11995	2-Butanone	78-93-3	< 600	600	240	49.9
11995	Carbon Disulfide	75-15-0	< 300	300	60	49.9
11995	Carbon Tetrachloride	56-23-5	< 300	300	60	49.9
11995	Chlorobenzene	108-90-7	< 300	300	60	49.9
11995	Chloroethane	75-00-3	< 300	300	120	49.9
11995	Chloroform	67-66-3	< 300	300	60	49.9
11995	Chloromethane	74-87-3	< 300	300	120	49.9
11995	Cyclohexane	110-82-7	< 300	300	60	49.9
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 300	300	120	49.9
11995	Dibromochloromethane	124-48-1	< 300	300	60	49.9
11995	1,2-Dibromoethane	106-93-4	< 300	300	60	49.9
11995	1,2-Dichlorobenzene	95-50-1	< 300	300	60	49.9
11995	1,3-Dichlorobenzene	541-73-1	< 300	300	60	49.9
11995	1,4-Dichlorobenzene	106-46-7	< 300	300	60	49.9
11995	Dichlorodifluoromethane	75-71-8	< 300	300	120	49.9
11995	1,1-Dichloroethane	75-34-3	< 300	300	60	49.9
11995	1,2-Dichloroethane	107-06-2	< 300	300	60	49.9
11995	1,1-Dichloroethene	75-35-4	< 300	300	60	49.9
11995	cis-1,2-Dichloroethene	156-59-2	< 300	300	60	49.9
11995	trans-1,2-Dichloroethene	156-60-5	< 300	300	60	49.9
11995	1,2-Dichloropropane	78-87-5	< 300	300	60	49.9
11995	cis-1,3-Dichloropropene	10061-01-5	< 300	300	60	49.9
11995	trans-1,3-Dichloropropene	10061-02-6	< 300	300	60	49.9
11995	Ethylbenzene	100-41-4	< 300	300	60	49.9
11995	Freon 113	76-13-1	< 600	600	120	49.9
11995	2-Hexanone	591-78-6	< 600	600	180	49.9
11995	Isopropylbenzene	98-82-8	< 300	300	60	49.9
11995	Methyl Acetate	79-20-9	< 300	300	120	49.9
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 300	300	30	49.9
11995	4-Methyl-2-pentanone	108-10-1	< 600	600	180	49.9
11995	Methylcyclohexane	108-87-2	< 300	300	60	49.9
11995	Methylene Chloride	75-09-2	< 300	300	120	49.9
11995	Styrene	100-42-5	4,400	300	60	49.9
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 300	300	60	49.9
11995	Tetrachloroethene	127-18-4	< 300	300	60	49.9
11995	Toluene	108-88-3	< 300	300	60	49.9
11995	1,2,4-Trichlorobenzene	120-82-1	< 300	300	60	49.9
11995	1,1,1-Trichloroethane	71-55-6	< 300	300	60	49.9
11995	1,1,2-Trichloroethane	79-00-5	< 300	300	60	49.9
11995	Trichloroethene	79-01-6	< 300	300	60	49.9
11995	Trichlorofluoromethane	75-69-4	< 300	300	120	49.9
11995	Vinyl Chloride	75-01-4	< 300	300	60	49.9
11995	Xylene (Total)	1330-20-7	< 300	300	60	49.9

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260047
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0702-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	320	100	20	1
10726	Acenaphthylene	208-96-8	< 100	100	20	1
10726	Acetophenone	98-86-2	< 200	200	99	1
10726	Anthracene	120-12-7	900	100	20	1
10726	Atrazine	1912-24-9	< 990	990	200	1
10726	Benzaldehyde	100-52-7	< 990	990	400	1
10726	Benzo(a)anthracene	56-55-3	3,000	100	20	1
10726	Benzo(a)pyrene	50-32-8	2,900	100	20	1
10726	Benzo(b)fluoranthene	205-99-2	4,600	100	20	1
10726	Benzo(g,h,i)perylene	191-24-2	2,700	100	20	1
10726	Benzo(k)fluoranthene	207-08-9	1,700	100	20	1
10726	1,1'-Biphenyl	92-52-4	< 200	200	99	1
10726	4-Bromophenyl-phenylether	101-55-3	< 200	200	99	1
10726	Butylbenzylphthalate	85-68-7	1,500	990	400	1
10726	Di-n-butylphthalate	84-74-2	< 990	990	400	1
10726	Caprolactam	105-60-2	< 990	990	200	1
10726	Carbazole	86-74-8	680	200	99	1
10726	4-Chloro-3-methylphenol	59-50-7	< 200	200	99	1
10726	4-Chloroaniline	106-47-8	< 400	400	200	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 200	200	99	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 200	200	99	1
10726	2-Chloronaphthalene	91-58-7	< 200	200	40	1
10726	2-Chlorophenol	95-57-8	< 200	200	99	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 200	200	99	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 200	200	99	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	3,000	100	20	1
10726	Dibenz(a,h)anthracene	53-70-3	690	100	20	1
10726	Dibenzofuran	132-64-9	220	200	99	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 2,000	2,000	590	1
10726	2,4-Dichlorophenol	120-83-2	< 200	200	99	1
10726	Diethylphthalate	84-66-2	< 990	990	400	1
10726	2,4-Dimethylphenol	105-67-9	< 200	200	99	1
10726	Dimethylphthalate	131-11-3	< 990	990	400	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 3,000	3,000	990	1
10726	2,4-Dinitrophenol	51-28-5	< 5,900	5,900	1,800	1
10726	2,4-Dinitrotoluene	121-14-2	< 990	990	400	1
10726	2,6-Dinitrotoluene	606-20-2	< 200	200	99	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	3,600	1,000	400	1
10726	Fluoranthene	206-44-0	5,500	100	20	1
10726	Fluorene	86-73-7	360	100	20	1
10726	Hexachlorobenzene	118-74-1	< 100	100	20	1
10726	Hexachlorobutadiene	87-68-3	< 200	200	99	1
10726	Hexachlorocyclopentadiene	77-47-4	< 3,000	3,000	990	1
10726	Hexachloroethane	67-72-1	< 990	990	200	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	2,300	100	20	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260047
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0702-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 200	200	99	1
10726	2-Methylnaphthalene	91-57-6	210	100	20	1
10726	2-Methylphenol	95-48-7	< 200	200	99	1
10726	4-Methylphenol	106-44-5	< 200	200	99	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	200	100	20	1
10726	2-Nitroaniline	88-74-4	< 200	200	99	1
10726	3-Nitroaniline	99-09-2	< 990	990	400	1
10726	4-Nitroaniline	100-01-6	< 990	990	400	1
10726	Nitrobenzene	98-95-3	< 200	200	99	1
10726	2-Nitrophenol	88-75-5	< 200	200	99	1
10726	4-Nitrophenol	100-02-7	< 3,000	3,000	990	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 200	200	99	1
10726	N-Nitrosodiphenylamine	86-30-6	< 200	200	99	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 990	990	400	1
10726	Pentachlorophenol	87-86-5	< 1,000	1,000	200	1
10726	Phenanthrene	85-01-8	3,600	100	20	1
10726	Phenol	108-95-2	< 200	200	99	1
10726	Pyrene	129-00-0	5,200	100	20	1
10726	2,4,5-Trichlorophenol	95-95-4	< 200	200	99	1
10726	2,4,6-Trichlorophenol	88-06-2	< 200	200	99	1
Reporting limits were raised due to interference from the sample matrix.						
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	47	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	47	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 350	350	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 350	350	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	47	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	47	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	47	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	47	1
13413	HMX	2691-41-0	< 350	350	120	1
13413	Nitrobenzene	98-95-3	< 350	350	120	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	940	1
13413	2-Nitrotoluene	88-72-2	< 140	140	47	1
13413	3-Nitrotoluene	99-08-1	< 140	140	47	1
13413	4-Nitrotoluene	99-99-0	< 140	140	47	1
13413	PETN	78-11-5	< 2,800	2,800	940	1
13413	RDX	121-82-4	< 140	140	47	1
13413	Tetryl	479-45-8	< 350	350	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	47	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	47	1

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Analysis Report

Sample Description: SBO-07-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260047
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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0702-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 400	400	85	20
10885	PCB-1221	11104-28-2	< 400	400	110	20
10885	PCB-1232	11141-16-5	< 400	400	190	20
10885	PCB-1242	53469-21-9	< 400	400	78	20
10885	PCB-1248	12672-29-6	6,800	400	78	20
10885	PCB-1254	11097-69-1	4,500	400	78	20
10885	PCB-1260	11096-82-5	< 400	400	120	20
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.0	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	22,600	230	44.0	5
06946	Barium	7440-39-3	314	1.15	0.138	1
01650	Calcium	7440-70-2	14,300	46.0	3.83	1
06952	Cobalt	7440-48-4	28.6	5.74	0.465	5
06953	Copper	7440-50-8	911	11.5	1.84	5
01654	Iron	7439-89-6	148,000	460	38.3	10
06955	Lead	7439-92-1	1,020	17.2	2.36	5
01657	Magnesium	7439-95-4	3,220	23.0	1.92	1
06958	Manganese	7439-96-5	1,320	1.15	0.138	1
06961	Nickel	7440-02-0	190	2.30	0.264	1
01662	Potassium	7440-09-7	2,070	115	19.3	1
01667	Sodium	7440-23-5	290	230	19.2	1
06970	Titanium	7440-32-6	931	11.5	2.13	5
06971	Vanadium	7440-62-2	53.3	5.74	1.32	5
06972	Zinc	7440-66-6	2,060	23.0	4.42	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	20.7	0.460	0.0758	2
06125	Arsenic	7440-38-2	19.3	0.919	0.172	2
06127	Beryllium	7440-41-7	0.545	0.230	0.0163	2
06128	Cadmium	7440-43-9	7.13	0.230	0.0528	2
06131	Chromium	7440-47-3	448	4.60	0.574	10
06141	Selenium	7782-49-2	< 0.919	0.919	0.115	2
06142	Silver	7440-22-4	2.24	0.230	0.0230	2
06145	Thallium	7440-28-0	< 0.230	0.230	0.0345	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.43	1.17	0.0586	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	16.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260047
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0702-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016	15:32	Anita M Dale	49.9
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016	16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016	16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016	16:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	03:06	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016	04:00	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016	02:03	Kirby B Turner	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016	22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016	02:18	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016	18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	18:44	Cindy M Gehman	5
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:05	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:05	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	18:44	Cindy M Gehman	5
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:05	Eric L Eby	5
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	19:14	Cindy M Gehman	10
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	18:44	Cindy M Gehman	5
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:05	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:05	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:05	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:05	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:05	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	18:44	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	18:44	Cindy M Gehman	5
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	18:44	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:33	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:33	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:33	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:33	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:38	Tara L Snyder	10
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:33	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/06/2016	22:36	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	12:33	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260047
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:30 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0702-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 11:02	Damary Valentin	5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260048
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0768-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	37	20	7	0.83
11995	Benzene	71-43-2	< 5	5	0.5	0.83
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.83
11995	Bromoform	75-25-2	< 5	5	1	0.83
11995	Bromomethane	74-83-9	< 5	5	2	0.83
11995	2-Butanone	78-93-3	< 10	10	4	0.83
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.83
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.83
11995	Chlorobenzene	108-90-7	< 5	5	1	0.83
11995	Chloroethane	75-00-3	< 5	5	2	0.83
11995	Chloroform	67-66-3	< 5	5	1	0.83
11995	Chloromethane	74-87-3	< 5	5	2	0.83
11995	Cyclohexane	110-82-7	< 5	5	1	0.83
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.83
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.83
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.83
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.83
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.83
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.83
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.83
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.83
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.83
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.83
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.83
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.83
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.83
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.83
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.83
11995	Ethylbenzene	100-41-4	< 5	5	1	0.83
11995	Freon 113	76-13-1	< 10	10	2	0.83
11995	2-Hexanone	591-78-6	< 10	10	3	0.83
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.83
11995	Methyl Acetate	79-20-9	< 5	5	2	0.83
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.83
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.83
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.83
11995	Methylene Chloride	75-09-2	< 5	5	2	0.83
11995	Styrene	100-42-5	< 5	5	1	0.83
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.83
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.83
11995	Toluene	108-88-3	< 5	5	1	0.83
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.83
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.83
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.83
11995	Trichloroethene	79-01-6	< 5	5	1	0.83
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.83
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.83
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.83
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 21	21	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260048
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0768-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 21	21	4	1
10726	Acetophenone	98-86-2	< 40	40	20	1
10726	Anthracene	120-12-7	< 21	21	4	1
10726	Atrazine	1912-24-9	< 200	200	40	1
10726	Benzaldehyde	100-52-7	< 200	200	81	1
10726	Benzo(a)anthracene	56-55-3	< 21	21	4	1
10726	Benzo(a)pyrene	50-32-8	< 21	21	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 21	21	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 21	21	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 21	21	4	1
10726	1,1'-Biphenyl	92-52-4	< 40	40	20	1
10726	4-Bromophenyl-phenylether	101-55-3	< 40	40	20	1
10726	Butylbenzylphthalate	85-68-7	< 200	200	81	1
10726	Di-n-butylphthalate	84-74-2	< 200	200	81	1
10726	Caprolactam	105-60-2	< 200	200	40	1
10726	Carbazole	86-74-8	< 40	40	20	1
10726	4-Chloro-3-methylphenol	59-50-7	< 40	40	20	1
10726	4-Chloroaniline	106-47-8	< 81	81	40	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 40	40	20	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 40	40	20	1
10726	2-Chloronaphthalene	91-58-7	< 40	40	8	1
10726	2-Chlorophenol	95-57-8	< 40	40	20	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 40	40	20	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 40	40	20	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 21	21	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 21	21	4	1
10726	Dibenzofuran	132-64-9	< 40	40	20	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 400	400	120	1
10726	2,4-Dichlorophenol	120-83-2	< 40	40	20	1
10726	Diethylphthalate	84-66-2	< 200	200	81	1
10726	2,4-Dimethylphenol	105-67-9	< 40	40	20	1
10726	Dimethylphthalate	131-11-3	< 200	200	81	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 610	610	200	1
10726	2,4-Dinitrophenol	51-28-5	< 1,200	1,200	360	1
10726	2,4-Dinitrotoluene	121-14-2	< 200	200	81	1
10726	2,6-Dinitrotoluene	606-20-2	< 40	40	20	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 210	210	81	1
10726	Fluoranthene	206-44-0	< 21	21	4	1
10726	Fluorene	86-73-7	< 21	21	4	1
10726	Hexachlorobenzene	118-74-1	< 21	21	4	1
10726	Hexachlorobutadiene	87-68-3	< 40	40	20	1
10726	Hexachlorocyclopentadiene	77-47-4	< 610	610	200	1
10726	Hexachloroethane	67-72-1	< 200	200	40	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 21	21	4	1
10726	Isophorone	78-59-1	< 40	40	20	1
10726	2-Methylnaphthalene	91-57-6	< 21	21	4	1
10726	2-Methylphenol	95-48-7	< 40	40	20	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260048
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0768-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 40	40	20	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 21	21	4	1
10726	2-Nitroaniline	88-74-4	< 40	40	20	1
10726	3-Nitroaniline	99-09-2	< 200	200	81	1
10726	4-Nitroaniline	100-01-6	< 200	200	81	1
10726	Nitrobenzene	98-95-3	< 40	40	20	1
10726	2-Nitrophenol	88-75-5	< 40	40	20	1
10726	4-Nitrophenol	100-02-7	< 610	610	200	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 40	40	20	1
10726	N-Nitrosodiphenylamine	86-30-6	< 40	40	20	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 200	200	81	1
10726	Pentachlorophenol	87-86-5	< 210	210	40	1
10726	Phenanthrene	85-01-8	< 21	21	4	1
10726	Phenol	108-95-2	700	40	20	1
10726	Pyrene	129-00-0	< 21	21	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 40	40	20	1
10726	2,4,6-Trichlorophenol	88-06-2	< 40	40	20	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 150	150	49	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 150	150	49	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 370	370	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 370	370	120	1
13413	3,5-Dinitroaniline	618-87-1	< 150	150	49	1
13413	1,3-Dinitrobenzene	99-65-0	< 150	150	49	1
13413	2,4-Dinitrotoluene	121-14-2	< 150	150	49	1
13413	2,6-Dinitrotoluene	606-20-2	< 150	150	49	1
13413	HMX	2691-41-0	< 370	370	120	1
13413	Nitrobenzene	98-95-3	< 370	370	120	1
13413	Nitroglycerin	55-63-0	< 2,900	2,900	970	1
13413	2-Nitrotoluene	88-72-2	< 150	150	49	1
13413	3-Nitrotoluene	99-08-1	< 150	150	49	1
13413	4-Nitrotoluene	99-99-0	< 150	150	49	1
13413	PETN	78-11-5	< 2,900	2,900	970	1
13413	RDX	121-82-4	< 150	150	49	1
13413	Tetryl	479-45-8	< 370	370	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 150	150	49	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 150	150	49	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 21	21	4.4	1
10885	PCB-1221	11104-28-2	< 21	21	5.6	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
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Analysis Report

Sample Description: SBO-07-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260048
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0768-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 21	21	9.7	1
10885	PCB-1242	53469-21-9	< 21	21	4.0	1
10885	PCB-1248	12672-29-6	49	21	4.0	1
10885	PCB-1254	11097-69-1	22	21	4.0	1
10885	PCB-1260	11096-82-5	< 21	21	5.9	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	49,700	47.8	9.16	1
06946	Barium	7440-39-3	147	1.20	0.143	1
01650	Calcium	7440-70-2	625	47.8	3.98	1
06952	Cobalt	7440-48-4	13.2	1.20	0.0968	1
06953	Copper	7440-50-8	60.3	2.39	0.383	1
01654	Iron	7439-89-6	44,000	239	19.9	5
06955	Lead	7439-92-1	18.6	3.59	0.490	1
01657	Magnesium	7439-95-4	4,890	23.9	2.00	1
06958	Manganese	7439-96-5	400	1.20	0.143	1
06961	Nickel	7440-02-0	18.1	2.39	0.275	1
01662	Potassium	7440-09-7	3,910	120	20.1	1
01667	Sodium	7440-23-5	< 239	239	20.0	1
06970	Titanium	7440-32-6	2,530	12.0	2.21	5
06971	Vanadium	7440-62-2	87.0	1.20	0.275	1
06972	Zinc	7440-66-6	82.7	4.78	0.921	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.478	0.478	0.0789	2
06125	Arsenic	7440-38-2	4.15	0.956	0.179	2
06127	Beryllium	7440-41-7	1.30	0.239	0.0170	2
06128	Cadmium	7440-43-9	< 0.239	0.239	0.0550	2
06131	Chromium	7440-47-3	34.7	0.956	0.120	2
06141	Selenium	7782-49-2	< 0.956	0.956	0.120	2
06142	Silver	7440-22-4	< 0.239	0.239	0.0239	2
06145	Thallium	7440-28-0	0.545	0.239	0.0359	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.239	0.239	0.0119	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	18.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260048
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0768-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016	15:22	Jennifer K Howe	0.83
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016	16:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016	16:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016	16:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	03:30	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016	04:37	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016	02:14	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016	22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016	02:36	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016	18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:08	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	18:47	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	18:47	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	17:09	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:36	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:36	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:36	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:36	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:39	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:36	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	12:36	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	12:36	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-6-8-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260048
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 16:45 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:35	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260049
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0712-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 22	22	8	1.01
11995	Benzene	71-43-2	< 5	5	0.5	1.01
11995	Bromodichloromethane	75-27-4	< 5	5	1	1.01
11995	Bromoform	75-25-2	< 5	5	1	1.01
11995	Bromomethane	74-83-9	< 5	5	2	1.01
11995	2-Butanone	78-93-3	< 11	11	4	1.01
11995	Carbon Disulfide	75-15-0	< 5	5	1	1.01
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1.01
11995	Chlorobenzene	108-90-7	< 5	5	1	1.01
11995	Chloroethane	75-00-3	< 5	5	2	1.01
11995	Chloroform	67-66-3	< 5	5	1	1.01
11995	Chloromethane	74-87-3	< 5	5	2	1.01
11995	Cyclohexane	110-82-7	< 5	5	1	1.01
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1.01
11995	Dibromochloromethane	124-48-1	< 5	5	1	1.01
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1.01
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1.01
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1.01
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1.01
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1.01
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1.01
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1.01
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1.01
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1.01
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1.01
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1.01
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1.01
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1.01
11995	Ethylbenzene	100-41-4	< 5	5	1	1.01
11995	Freon 113	76-13-1	< 11	11	2	1.01
11995	2-Hexanone	591-78-6	< 11	11	3	1.01
11995	Isopropylbenzene	98-82-8	< 5	5	1	1.01
11995	Methyl Acetate	79-20-9	< 5	5	2	1.01
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1.01
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.01
11995	Methylcyclohexane	108-87-2	< 5	5	1	1.01
11995	Methylene Chloride	75-09-2	< 5	5	2	1.01
11995	Styrene	100-42-5	< 5	5	1	1.01
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1.01
11995	Tetrachloroethene	127-18-4	< 5	5	1	1.01
11995	Toluene	108-88-3	< 5	5	1	1.01
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1.01
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1.01
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1.01
11995	Trichloroethene	79-01-6	< 5	5	1	1.01
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1.01
11995	Vinyl Chloride	75-01-4	< 5	5	1	1.01
11995	Xylene (Total)	1330-20-7	< 5	5	1	1.01
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	4	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260049
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0712-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	4	1
10726	Acetophenone	98-86-2	< 36	36	18	1
10726	Anthracene	120-12-7	< 18	18	4	1
10726	Atrazine	1912-24-9	< 180	180	36	1
10726	Benzaldehyde	100-52-7	< 180	180	71	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	4	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	4	1
10726	1,1'-Biphenyl	92-52-4	< 36	36	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 36	36	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	71	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	71	1
10726	Caprolactam	105-60-2	< 180	180	36	1
10726	Carbazole	86-74-8	< 36	36	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 36	36	18	1
10726	4-Chloroaniline	106-47-8	< 71	71	36	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 36	36	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 36	36	18	1
10726	2-Chloronaphthalene	91-58-7	< 35	35	7	1
10726	2-Chlorophenol	95-57-8	< 36	36	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 36	36	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 36	36	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	4	1
10726	Dibenzofuran	132-64-9	< 36	36	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 360	360	110	1
10726	2,4-Dichlorophenol	120-83-2	< 36	36	18	1
10726	Diethylphthalate	84-66-2	< 180	180	71	1
10726	2,4-Dimethylphenol	105-67-9	< 36	36	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	71	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 530	530	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	320	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	71	1
10726	2,6-Dinitrotoluene	606-20-2	< 36	36	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	71	1
10726	Fluoranthene	206-44-0	< 18	18	4	1
10726	Fluorene	86-73-7	< 18	18	4	1
10726	Hexachlorobenzene	118-74-1	< 18	18	4	1
10726	Hexachlorobutadiene	87-68-3	< 36	36	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 530	530	180	1
10726	Hexachloroethane	67-72-1	< 180	180	36	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	4	1
10726	Isophorone	78-59-1	< 36	36	18	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	4	1
10726	2-Methylphenol	95-48-7	< 36	36	18	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-07-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260049
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0712-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 36	36	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	4	1
10726	2-Nitroaniline	88-74-4	< 36	36	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	71	1
10726	4-Nitroaniline	100-01-6	< 180	180	71	1
10726	Nitrobenzene	98-95-3	< 36	36	18	1
10726	2-Nitrophenol	88-75-5	< 36	36	18	1
10726	4-Nitrophenol	100-02-7	< 530	530	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 36	36	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 36	36	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	71	1
10726	Pentachlorophenol	87-86-5	< 180	180	36	1
10726	Phenanthrene	85-01-8	< 18	18	4	1
10726	Phenol	108-95-2	< 36	36	18	1
10726	Pyrene	129-00-0	< 18	18	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 36	36	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 36	36	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	43	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	43	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 320	320	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 320	320	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	43	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	43	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	43	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	43	1
13413	HMX	2691-41-0	< 320	320	110	1
13413	Nitrobenzene	98-95-3	< 320	320	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	850	1
13413	2-Nitrotoluene	88-72-2	< 130	130	43	1
13413	3-Nitrotoluene	99-08-1	< 130	130	43	1
13413	4-Nitrotoluene	99-99-0	< 130	130	43	1
13413	PETN	78-11-5	< 2,600	2,600	850	1
13413	RDX	121-82-4	< 130	130	43	1
13413	Tetryl	479-45-8	< 320	320	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	43	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	43	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.8	1
10885	PCB-1221	11104-28-2	< 18	18	4.9	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260049
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0712-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 18	18	8.5	1
10885	PCB-1242	53469-21-9	< 18	18	3.5	1
10885	PCB-1248	12672-29-6	< 18	18	3.5	1
10885	PCB-1254	11097-69-1	< 18	18	3.5	1
10885	PCB-1260	11096-82-5	< 18	18	5.2	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.4	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	8,550	41.4	7.94	1
06946	Barium	7440-39-3	27.6	1.04	0.124	1
01650	Calcium	7440-70-2	225	41.4	3.45	1
06952	Cobalt	7440-48-4	3.67	1.04	0.0839	1
06953	Copper	7440-50-8	12.4	2.07	0.332	1
01654	Iron	7439-89-6	8,400	41.4	3.45	1
06955	Lead	7439-92-1	< 3.11	3.11	0.425	1
01657	Magnesium	7439-95-4	877	20.7	1.73	1
06958	Manganese	7439-96-5	214	1.04	0.124	1
06961	Nickel	7440-02-0	3.22	2.07	0.238	1
01662	Potassium	7440-09-7	656	104	17.4	1
01667	Sodium	7440-23-5	< 207	207	17.3	1
06970	Titanium	7440-32-6	607	2.07	0.383	1
06971	Vanadium	7440-62-2	18.0	1.04	0.238	1
06972	Zinc	7440-66-6	13.3	4.14	0.798	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.414	0.414	0.0684	2
06125	Arsenic	7440-38-2	1.30	0.829	0.155	2
06127	Beryllium	7440-41-7	0.309	0.207	0.0147	2
06128	Cadmium	7440-43-9	< 0.207	0.207	0.0477	2
06131	Chromium	7440-47-3	8.48	0.829	0.104	2
06141	Selenium	7782-49-2	< 0.829	0.829	0.104	2
06142	Silver	7440-22-4	< 0.207	0.207	0.0207	2
06145	Thallium	7440-28-0	< 0.207	0.207	0.0311	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.209	0.209	0.0104	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	7.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260049
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0712-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016 15:45	Jennifer K Howe	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016 17:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016 17:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016 17:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016 03:53	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016 09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016 05:14	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016 03:00	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016 22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016 02:55	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016 18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016 15:18	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 17:12	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 12:39	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 12:39	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 12:39	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 12:39	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:41	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 12:39	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016 12:39	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 12:39	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-07-12-14-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260049
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

0712-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:37	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-15-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260050
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1502-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	180	21	7	0.88
11995	Benzene	71-43-2	< 5	5	0.5	0.88
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.88
11995	Bromoform	75-25-2	< 5	5	1	0.88
11995	Bromomethane	74-83-9	< 5	5	2	0.88
11995	2-Butanone	78-93-3	24	10	4	0.88
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.88
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.88
11995	Chlorobenzene	108-90-7	< 5	5	1	0.88
11995	Chloroethane	75-00-3	< 5	5	2	0.88
11995	Chloroform	67-66-3	< 5	5	1	0.88
11995	Chloromethane	74-87-3	< 5	5	2	0.88
11995	Cyclohexane	110-82-7	< 5	5	1	0.88
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.88
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.88
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.88
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.88
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.88
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.88
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.88
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.88
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.88
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.88
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.88
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.88
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.88
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.88
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.88
11995	Ethylbenzene	100-41-4	< 5	5	1	0.88
11995	Freon 113	76-13-1	< 10	10	2	0.88
11995	2-Hexanone	591-78-6	< 10	10	3	0.88
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.88
11995	Methyl Acetate	79-20-9	< 5	5	2	0.88
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.88
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.88
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.88
11995	Methylene Chloride	75-09-2	< 5	5	2	0.88
11995	Styrene	100-42-5	< 5	5	1	0.88
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.88
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.88
11995	Toluene	108-88-3	< 5	5	1	0.88
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.88
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.88
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.88
11995	Trichloroethene	79-01-6	< 5	5	1	0.88
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.88
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.88
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.88
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 500	500	97	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-15-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260050
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1502-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 500	500	97	5
10726	Acetophenone	98-86-2	< 980	980	490	5
10726	Anthracene	120-12-7	1,200	500	97	5
10726	Atrazine	1912-24-9	< 4,900	4,900	980	5
10726	Benzaldehyde	100-52-7	< 4,900	4,900	2,000	5
10726	Benzo(a)anthracene	56-55-3	3,900	500	97	5
10726	Benzo(a)pyrene	50-32-8	3,700	500	97	5
10726	Benzo(b)fluoranthene	205-99-2	5,300	500	97	5
10726	Benzo(g,h,i)perylene	191-24-2	2,500	500	97	5
10726	Benzo(k)fluoranthene	207-08-9	2,200	500	97	5
10726	1,1'-Biphenyl	92-52-4	< 980	980	490	5
10726	4-Bromophenyl-phenylether	101-55-3	< 980	980	490	5
10726	Butylbenzylphthalate	85-68-7	< 4,900	4,900	2,000	5
10726	Di-n-butylphthalate	84-74-2	< 4,900	4,900	2,000	5
10726	Caprolactam	105-60-2	< 4,900	4,900	980	5
10726	Carbazole	86-74-8	1,900	980	490	5
10726	4-Chloro-3-methylphenol	59-50-7	< 980	980	490	5
10726	4-Chloroaniline	106-47-8	< 2,000	2,000	980	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 980	980	490	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 980	980	490	5
10726	2-Chloronaphthalene	91-58-7	< 970	970	200	5
10726	2-Chlorophenol	95-57-8	< 980	980	490	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 980	980	490	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 980	980	490	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	3,900	500	97	5
10726	Dibenz(a,h)anthracene	53-70-3	940	500	97	5
10726	Dibenzofuran	132-64-9	< 980	980	490	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 9,800	9,800	2,900	5
10726	2,4-Dichlorophenol	120-83-2	< 980	980	490	5
10726	Diethylphthalate	84-66-2	< 4,900	4,900	2,000	5
10726	2,4-Dimethylphenol	105-67-9	< 980	980	490	5
10726	Dimethylphthalate	131-11-3	< 4,900	4,900	2,000	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 15,000	15,000	4,900	5
10726	2,4-Dinitrophenol	51-28-5	< 29,000	29,000	8,800	5
10726	2,4-Dinitrotoluene	121-14-2	< 4,900	4,900	2,000	5
10726	2,6-Dinitrotoluene	606-20-2	< 980	980	490	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 5,000	5,000	2,000	5
10726	Fluoranthene	206-44-0	9,600	500	97	5
10726	Fluorene	86-73-7	750	500	97	5
10726	Hexachlorobenzene	118-74-1	< 500	500	97	5
10726	Hexachlorobutadiene	87-68-3	< 980	980	490	5
10726	Hexachlorocyclopentadiene	77-47-4	< 15,000	15,000	4,900	5
10726	Hexachloroethane	67-72-1	< 4,900	4,900	980	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	2,500	500	97	5
10726	Isophorone	78-59-1	< 980	980	490	5
10726	2-Methylnaphthalene	91-57-6	< 500	500	97	5
10726	2-Methylphenol	95-48-7	< 980	980	490	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-15-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260050
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1502-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 980	980	490	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 500	500	97	5
10726	2-Nitroaniline	88-74-4	< 980	980	490	5
10726	3-Nitroaniline	99-09-2	< 4,900	4,900	2,000	5
10726	4-Nitroaniline	100-01-6	< 4,900	4,900	2,000	5
10726	Nitrobenzene	98-95-3	< 980	980	490	5
10726	2-Nitrophenol	88-75-5	< 980	980	490	5
10726	4-Nitrophenol	100-02-7	< 15,000	15,000	4,900	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 980	980	490	5
10726	N-Nitrosodiphenylamine	86-30-6	< 980	980	490	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 4,900	4,900	2,000	5
10726	Pentachlorophenol	87-86-5	< 5,000	5,000	980	5
10726	Phenanthrene	85-01-8	8,100	500	97	5
10726	Phenol	108-95-2	1,600	980	490	5
10726	Pyrene	129-00-0	7,600	500	97	5
10726	2,4,5-Trichlorophenol	95-95-4	< 980	980	490	5
10726	2,4,6-Trichlorophenol	88-06-2	< 980	980	490	5
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	900	1
13413	2-Nitrotoluene	88-72-2	< 130	130	45	1
13413	3-Nitrotoluene	99-08-1	< 130	130	45	1
13413	4-Nitrotoluene	99-99-0	< 130	130	45	1
13413	PETN	78-11-5	< 2,700	2,700	900	1
13413	RDX	121-82-4	< 130	130	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 400	400	84	20

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-15-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260050
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1502-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 400	400	110	20
10885	PCB-1232	11141-16-5	< 400	400	190	20
10885	PCB-1242	53469-21-9	< 400	400	77	20
10885	PCB-1248	12672-29-6	4,400	400	77	20
10885	PCB-1254	11097-69-1	4,900	400	77	20
10885	PCB-1260	11096-82-5	< 400	400	110	20
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.9	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	43,800	46.2	8.85	1
06946	Barium	7440-39-3	193	1.15	0.139	1
01650	Calcium	7440-70-2	10,800	46.2	3.85	1
06952	Cobalt	7440-48-4	11.8	1.15	0.0935	1
06953	Copper	7440-50-8	660	2.31	0.370	1
01654	Iron	7439-89-6	92,700	231	19.2	5
06955	Lead	7439-92-1	846	3.46	0.473	1
01657	Magnesium	7439-95-4	3,130	23.1	1.93	1
06958	Manganese	7439-96-5	1,030	1.15	0.139	1
06961	Nickel	7440-02-0	170	2.31	0.266	1
01662	Potassium	7440-09-7	2,090	115	19.4	1
01667	Sodium	7440-23-5	< 231	231	19.3	1
06970	Titanium	7440-32-6	722	2.31	0.427	1
06971	Vanadium	7440-62-2	39.0	1.15	0.266	1
06972	Zinc	7440-66-6	1,320	23.1	4.45	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	32.7	0.462	0.0762	2
06125	Arsenic	7440-38-2	11.6	0.924	0.173	2
06127	Beryllium	7440-41-7	0.354	0.231	0.0164	2
06128	Cadmium	7440-43-9	4.94	0.231	0.0531	2
06131	Chromium	7440-47-3	248	0.924	0.115	2
06141	Selenium	7782-49-2	< 0.924	0.924	0.115	2
06142	Silver	7440-22-4	0.980	0.231	0.0231	2
06145	Thallium	7440-28-0	< 1.15	1.15	0.173	10
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.11	0.572	0.0286	2.5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	15.1	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-15-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260050
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1502-

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160612AA	03/01/2016 16:07	Jennifer K Howe	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/23/2016 15:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/23/2016 15:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/23/2016 15:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016 04:16	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016 09:00	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016 05:50	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610007A	03/03/2016 03:34	Kirby B Turner	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610007A	03/01/2016 22:00	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630031A	03/05/2016 03:13	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630031A	03/04/2016 18:20	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016 15:21	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016 18:57	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 17:15	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 18:57	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 12:42	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 12:42	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 12:42	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 12:42	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:47	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 12:42	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/06/2016 22:47	Tara L Snyder	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-15-0-2-022316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260050
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 15:00 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

1502-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637001A	03/06/2016 22:48	Tara L Snyder	10
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 11:04	Damary Valentin	2.5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820011A	03/17/2016 19:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: EQUIP.BLK-022316 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8260051
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

EB223

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	< 1	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	< 1	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	2-Hexanone	591-78-6	< 10	10	3	1
11997	Isopropylbenzene	98-82-8	< 5	5	1	1
11997	Methyl Acetate	79-20-9	< 5	5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	< 1	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	< 1	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	< 0.5	0.5	0.1	1

*=This limit was used in the evaluation of the final result

Sample Description: EQUIP.BLK-022316 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8260051
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

EB223

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acenaphthylene	208-96-8	< 0.5	0.5	0.1	1
10461	Acetophenone	98-86-2	< 1	1	0.5	1
10461	Anthracene	120-12-7	< 0.5	0.5	0.1	1
10461	Atrazine	1912-24-9	< 5	5	2	1
10461	Benzaldehyde	100-52-7	< 5	5	1	1
10461	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
10461	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	< 0.5	0.5	0.1	1
10461	1,1'-Biphenyl	92-52-4	< 1	1	0.5	1
10461	4-Bromophenyl-phenylether	101-55-3	< 1	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	< 5	5	2	1
10461	Di-n-butylphthalate	84-74-2	< 5	5	2	1
10461	Caprolactam	105-60-2	< 16	16	5	1
10461	Carbazole	86-74-8	< 1	1	0.5	1
10461	4-Chloro-3-methylphenol	59-50-7	< 1	1	0.5	1
10461	4-Chloroaniline	106-47-8	< 4	4	2	1
10461	bis(2-Chloroethoxy)methane	111-91-1	< 1	1	0.5	1
10461	bis(2-Chloroethyl)ether	111-44-4	< 1	1	0.5	1
10461	2-Chloronaphthalene	91-58-7	< 1	1	0.4	1
10461	2-Chlorophenol	95-57-8	< 1	1	0.5	1
10461	4-Chlorophenyl-phenylether	7005-72-3	< 1	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	Chrysene	218-01-9	< 0.5	0.5	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	< 0.5	0.5	0.1	1
10461	Dibenzofuran	132-64-9	< 1	1	0.5	1
10461	3,3'-Dichlorobenzidine	91-94-1	< 5	5	2	1
10461	2,4-Dichlorophenol	120-83-2	< 1	1	0.5	1
10461	Diethylphthalate	84-66-2	< 5	5	2	1
10461	2,4-Dimethylphenol	105-67-9	< 1	1	0.5	1
10461	Dimethylphthalate	131-11-3	< 5	5	2	1
10461	4,6-Dinitro-2-methylphenol	534-52-1	< 16	16	5	1
10461	2,4-Dinitrophenol	51-28-5	< 32	32	11	1
10461	2,4-Dinitrotoluene	121-14-2	< 5	5	1	1
10461	2,6-Dinitrotoluene	606-20-2	< 1	1	0.5	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	2	1
10461	Fluoranthene	206-44-0	< 0.5	0.5	0.1	1
10461	Fluorene	86-73-7	< 0.5	0.5	0.1	1
10461	Hexachlorobenzene	118-74-1	< 0.5	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	< 1	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	< 16	16	5	1
10461	Hexachloroethane	67-72-1	< 5	5	1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.5	0.5	0.1	1
10461	Isophorone	78-59-1	< 1	1	0.5	1
10461	2-Methylnaphthalene	91-57-6	< 0.5	0.5	0.1	1
10461	2-Methylphenol	95-48-7	< 1	1	0.5	1

*=This limit was used in the evaluation of the final result

Sample Description: EQUIP.BLK-022316 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8260051
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

EB223

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	4-Methylphenol	106-44-5	< 1	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
10461	2-Nitroaniline	88-74-4	< 1	1	0.5	1
10461	3-Nitroaniline	99-09-2	< 1	1	0.5	1
10461	4-Nitroaniline	100-01-6	< 1	1	0.5	1
10461	Nitrobenzene	98-95-3	< 1	1	0.5	1
10461	2-Nitrophenol	88-75-5	< 1	1	0.5	1
10461	4-Nitrophenol	100-02-7	< 32	32	11	1
10461	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	< 1	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	< 5	5	2	1
10461	Pentachlorophenol	87-86-5	< 5	5	1	1
10461	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
10461	Phenol	108-95-2	< 1	1	0.5	1
10461	Pyrene	129-00-0	< 0.5	0.5	0.1	1
10461	2,4,5-Trichlorophenol	95-95-4	< 1	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	< 1	1	0.5	1
	The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance: bis(2-Chloroethyl)ether					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 0.60	0.60	0.20	1
13395	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 0.60	0.60	0.20	1
13395	2,6-Diamino-4-nitrotoluene	59229-75-3	< 0.60	0.60	0.20	1
13395	2,4-Diamino-6-nitrotoluene	6629-29-4	< 0.60	0.60	0.20	1
13395	3,5-Dinitroaniline	618-87-1	< 0.60	0.60	0.20	1
13395	1,3-Dinitrobenzene	99-65-0	< 0.60	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	< 0.60	0.60	0.20	1
13395	2,6-Dinitrotoluene	606-20-2	< 0.60	0.60	0.20	1
13395	HMX	2691-41-0	< 0.60	0.60	0.20	1
13395	Nitrobenzene	98-95-3	< 0.60	0.60	0.20	1
13395	Nitroglycerin	55-63-0	< 10	10	3.0	1
13395	2-Nitrotoluene	88-72-2	< 0.60	0.60	0.20	1
13395	3-Nitrotoluene	99-08-1	< 0.60	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	< 0.60	0.60	0.20	1
13395	PETN	78-11-5	< 10	10	3.0	1
13395	RDX	121-82-4	< 0.60	0.60	0.20	1
13395	Tetryl	479-45-8	< 0.60	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	< 0.60	0.60	0.20	1
13395	2,4,6-Trinitrotoluene	118-96-7	< 0.60	0.60	0.20	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: EQUIP.BLK-022316 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8260051
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

EB223

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.42	0.42	0.084	1
10591	PCB-1221	11104-28-2	< 0.42	0.42	0.084	1
10591	PCB-1232	11141-16-5	< 0.42	0.42	0.17	1
10591	PCB-1242	53469-21-9	< 0.42	0.42	0.084	1
10591	PCB-1248	12672-29-6	< 0.42	0.42	0.084	1
10591	PCB-1254	11097-69-1	< 0.42	0.42	0.084	1
10591	PCB-1260	11096-82-5	< 0.42	0.42	0.13	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	**mg/l**	
08278	Ethylene glycol	107-21-1	< 10	10	5.0	1

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. The following corrective action was taken:
The analysis was repeated and the continuing calibration verification standard bracketing the sample on the second trial is also outside the acceptance limits. This effect is attributed to the sample matrix and the data is reported.

Metals	**SW-846 6010C**		**mg/l**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	< 0.200	0.200	0.0929	1
07046	Barium	7440-39-3	< 0.0050	0.0050	0.0012	1
01750	Calcium	7440-70-2	< 0.200	0.200	0.0347	1
07052	Cobalt	7440-48-4	< 0.0050	0.0050	0.00090	1
07053	Copper	7440-50-8	< 0.0100	0.0100	0.0032	1
01754	Iron	7439-89-6	< 0.200	0.200	0.0333	1
07055	Lead	7439-92-1	< 0.0150	0.0150	0.0051	1
01757	Magnesium	7439-95-4	< 0.100	0.100	0.0167	1
07058	Manganese	7439-96-5	< 0.0050	0.0050	0.0012	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	0.0025	1
01762	Potassium	7440-09-7	< 0.500	0.500	0.192	1
01767	Sodium	7440-23-5	< 1.00	1.00	0.167	1
07070	Titanium	7440-32-6	< 0.0100	0.0100	0.0037	1
07071	Vanadium	7440-62-2	< 0.0050	0.0050	0.0023	1
07072	Zinc	7440-66-6	< 0.0200	0.0200	0.0039	1
	SW-846 6020A		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00023	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: EQUIP.BLK-022316 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8260051
LL Group # 1635142
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/23/2016 17:50 by TK

Submitted: 02/24/2016 10:00
Reported: 03/21/2016 16:25

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

EB223

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y160603AA	02/29/2016	18:22	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y160603AA	02/29/2016	18:22	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16058WAM026	03/01/2016	22:53	Ankitaben A Patel	1
11010	8270D BNA Extraction	SW-846 3510C	1	16058WAM026	02/29/2016	16:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	160580020A	03/02/2016	02:49	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	160610002A	03/02/2016	22:49	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	160610002A	03/01/2016	16:35	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160580020A	02/29/2016	13:30	Wanda F Oswald	1
08278	Glycols in Water	SW-846 8015B modified	1	160680025A	03/08/2016	16:55	Tyler O Griffin	1
01743	Aluminum	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07046	Barium	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
01750	Calcium	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07052	Cobalt	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07053	Copper	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
01754	Iron	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07055	Lead	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
01757	Magnesium	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07058	Manganese	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07061	Nickel	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
01762	Potassium	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
01767	Sodium	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07070	Titanium	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07071	Vanadium	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
07072	Zinc	SW-846 6010C	1	160620635001	03/03/2016	18:46	Suzanne M Will	1
06024	Antimony	SW-846 6020A	1	160620639002A	03/04/2016	07:20	Tara L Snyder	1
06025	Arsenic	SW-846 6020A	1	160620639002A	03/04/2016	07:20	Tara L Snyder	1
06027	Beryllium	SW-846 6020A	1	160620639002A	03/04/2016	07:20	Tara L Snyder	1
06028	Cadmium	SW-846 6020A	1	160620639002A	03/04/2016	07:20	Tara L Snyder	1
06031	Chromium	SW-846 6020A	1	160620639002A	03/04/2016	07:20	Tara L Snyder	1
06041	Selenium	SW-846 6020A	1	160620639002B	03/04/2016	07:20	Tara L Snyder	1
06042	Silver	SW-846 6020A	1	160620639002A	03/04/2016	07:20	Tara L Snyder	1
06045	Thallium	SW-846 6020A	1	160620639002A	03/04/2016	07:20	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	160615713004	03/03/2016	11:48	Damary Valentin	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	160620635001	03/03/2016	09:16	James L Mertz	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	160620639002	03/03/2016	09:17	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	160615713004	03/02/2016	15:40	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: A160593AA	Sample number(s): 8260038-8260039,8260043		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: A160612AA	Sample number(s): 8260037,8260041-8260042,8260044-8260045,8260048-8260050		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Batch number: A160642AA	Sample number(s): 8260046		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: R160621AA	Sample number(s): 8260047		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
Batch number: R160633AA	Sample number(s): 8260040		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
	ug/l	ug/l	ug/l
Batch number: Y160603AA	Sample number(s): 8260051		
Acetone	< 20	20	6
Benzene	< 1	1	0.5
Bromodichloromethane	< 1	1	0.5
Bromoform	< 4	4	0.5
Bromomethane	< 1	1	0.5
2-Butanone	< 10	10	3
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 1	1	0.5
Chlorobenzene	< 1	1	0.5
Chloroethane	< 1	1	0.5
Chloroform	< 1	1	0.5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
Chloromethane	< 1	1	0.5
Cyclohexane	< 5	5	2
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 1	1	0.5
1,2-Dibromoethane	< 1	1	0.5
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 1	1	0.5
1,1-Dichloroethane	< 1	1	0.5
1,2-Dichloroethane	< 1	1	0.5
1,1-Dichloroethene	< 1	1	0.5
cis-1,2-Dichloroethene	< 1	1	0.5
trans-1,2-Dichloroethene	< 1	1	0.5
1,2-Dichloropropane	< 1	1	0.5
cis-1,3-Dichloropropene	< 1	1	0.5
trans-1,3-Dichloropropene	< 1	1	0.5
Ethylbenzene	< 1	1	0.5
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	1
Methyl Tertiary Butyl Ether	< 1	1	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 4	4	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 1	1	0.5
Tetrachloroethene	< 1	1	0.5
Toluene	< 1	1	0.5
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 1	1	0.5
1,1,2-Trichloroethane	< 1	1	0.5
Trichloroethene	< 1	1	0.5
Trichlorofluoromethane	< 1	1	0.5
Vinyl Chloride	< 1	1	0.5
Xylene (Total)	< 1	1	0.5
	ug/kg	ug/kg	ug/kg
Batch number: 16062SLI026	Sample number(s): 8260037-8260042,8260044-8260050		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
	ug/l	ug/l	ug/l

Batch number: 16058WAM026 Sample number(s): 8260051

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	Result ug/l	LOQ** ug/l	MDL ug/l
Acenaphthene	< 0.5	0.5	0.1
Acenaphthylene	< 0.5	0.5	0.1
Acetophenone	< 1	1	0.5
Anthracene	< 0.5	0.5	0.1
Atrazine	< 5	5	2
Benzaldehyde	< 5	5	1
Benzo(a)anthracene	< 0.5	0.5	0.1
Benzo(a)pyrene	< 0.5	0.5	0.1
Benzo(b)fluoranthene	< 0.5	0.5	0.1
Benzo(g,h,i)perylene	< 0.5	0.5	0.1
Benzo(k)fluoranthene	< 0.5	0.5	0.1
1,1'-Biphenyl	< 1	1	0.5
4-Bromophenyl-phenylether	< 1	1	0.5
Butylbenzylphthalate	< 5	5	2
Di-n-butylphthalate	< 5	5	2
Caprolactam	< 15	15	5
Carbazole	< 1	1	0.5
4-Chloro-3-methylphenol	< 1	1	0.5
4-Chloroaniline	< 4	4	2
bis(2-Chloroethoxy)methane	< 1	1	0.5
bis(2-Chloroethyl)ether	< 1	1	0.5
2-Chloronaphthalene	< 1	1	0.4
2-Chlorophenol	< 1	1	0.5
4-Chlorophenyl-phenylether	< 1	1	0.5
2,2'-oxybis(1-Chloropropane)	< 1	1	0.5
Chrysene	< 0.5	0.5	0.1
Dibenz(a,h)anthracene	< 0.5	0.5	0.1
Dibenzofuran	< 1	1	0.5
3,3'-Dichlorobenzidine	< 5	5	2
2,4-Dichlorophenol	< 1	1	0.5
Diethylphthalate	< 5	5	2
2,4-Dimethylphenol	< 1	1	0.5
Dimethylphthalate	< 5	5	2
4,6-Dinitro-2-methylphenol	< 15	15	5
2,4-Dinitrophenol	< 30	30	10
2,4-Dinitrotoluene	< 5	5	1
2,6-Dinitrotoluene	< 1	1	0.5
bis(2-Ethylhexyl)phthalate	< 5	5	2
Fluoranthene	< 0.5	0.5	0.1
Fluorene	< 0.5	0.5	0.1
Hexachlorobenzene	< 0.5	0.5	0.1
Hexachlorobutadiene	< 1	1	0.5
Hexachlorocyclopentadiene	< 15	15	5
Hexachloroethane	< 5	5	1
Indeno(1,2,3-cd)pyrene	< 0.5	0.5	0.1
Isophorone	< 1	1	0.5
2-Methylnaphthalene	< 0.5	0.5	0.1
2-Methylphenol	< 1	1	0.5
4-Methylphenol	< 1	1	0.5
Naphthalene	< 0.5	0.5	0.1
2-Nitroaniline	< 1	1	0.5
3-Nitroaniline	< 1	1	0.5
4-Nitroaniline	< 1	1	0.5
Nitrobenzene	< 1	1	0.5

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
2-Nitrophenol	< 1	1	0.5
4-Nitrophenol	< 30	30	10
N-Nitroso-di-n-propylamine	< 1	1	0.5
N-Nitrosodiphenylamine	< 1	1	0.5
Di-n-octylphthalate	< 5	5	2
Pentachlorophenol	< 5	5	1
Phenanthrene	< 0.5	0.5	0.1
Phenol	< 1	1	0.5
Pyrene	< 0.5	0.5	0.1
2,4,5-Trichlorophenol	< 1	1	0.5
2,4,6-Trichlorophenol	< 1	1	0.5
	ug/kg	ug/kg	ug/kg
Batch number: 160620006A	Sample number(s): 8260037-8260042,8260044-8260050		
4-Amino-2,6-Dinitrotoluene	< 120	120	40
2-Amino-4,6-Dinitrotoluene	< 120	120	40
2,6-Diamino-4-nitrotoluene	< 300	300	100
2,4-Diamino-6-nitrotoluene	< 300	300	100
3,5-Dinitroaniline	< 120	120	40
1,3-Dinitrobenzene	< 120	120	40
2,4-Dinitrotoluene	< 120	120	40
2,6-Dinitrotoluene	< 120	120	40
HMX	< 300	300	100
Nitrobenzene	< 300	300	100
Nitroglycerin	< 2,400	2,400	800
2-Nitrotoluene	< 120	120	40
3-Nitrotoluene	< 120	120	40
4-Nitrotoluene	< 120	120	40
PETN	< 2,400	2,400	800
RDX	< 120	120	40
Tetryl	< 300	300	100
1,3,5-Trinitrobenzene	< 120	120	40
2,4,6-Trinitrotoluene	< 120	120	40
	ug/l	ug/l	ug/l
Batch number: 160580020A	Sample number(s): 8260051		
4-Amino-2,6-Dinitrotoluene	< 0.60	0.60	0.20
2-Amino-4,6-Dinitrotoluene	< 0.60	0.60	0.20
2,6-Diamino-4-nitrotoluene	< 0.60	0.60	0.20
2,4-Diamino-6-nitrotoluene	< 0.60	0.60	0.20
3,5-Dinitroaniline	< 0.60	0.60	0.20
1,3-Dinitrobenzene	< 0.60	0.60	0.20
2,4-Dinitrotoluene	< 0.60	0.60	0.20
2,6-Dinitrotoluene	< 0.60	0.60	0.20
HMX	< 0.60	0.60	0.20
Nitrobenzene	< 0.60	0.60	0.20
Nitroglycerin	< 10	10	3.0
2-Nitrotoluene	< 0.60	0.60	0.20
3-Nitrotoluene	< 0.60	0.60	0.20
4-Nitrotoluene	< 0.60	0.60	0.20
PETN	< 10	10	3.0
RDX	< 0.60	0.60	0.20
Tetryl	< 0.60	0.60	0.20
1,3,5-Trinitrobenzene	< 0.60	0.60	0.20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
2,4,6-Trinitrotoluene	< 0.60	0.60	0.20
	ug/kg	ug/kg	ug/kg
Batch number: 160610007A	Sample number(s): 8260037-8260042,8260044-8260050		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	ug/l	ug/l	ug/l
Batch number: 160610002A	Sample number(s): 8260051		
PCB-1016	< 0.40	0.40	0.080
PCB-1221	< 0.40	0.40	0.080
PCB-1232	< 0.40	0.40	0.16
PCB-1242	< 0.40	0.40	0.080
PCB-1248	< 0.40	0.40	0.080
PCB-1254	< 0.40	0.40	0.080
PCB-1260	< 0.40	0.40	0.12
	mg/kg	mg/kg	mg/kg
Batch number: 160630031A	Sample number(s): 8260037-8260042,8260044-8260050		
Ethylene glycol	< 10	10	5.0
	mg/l	mg/l	mg/l
Batch number: 160680025A	Sample number(s): 8260051		
Ethylene glycol	< 10	10	5.0
	mg/kg	mg/kg	mg/kg
Batch number: 160610637001	Sample number(s): 8260037-8260042,8260044-8260050		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160610637001A	Sample number(s): 8260037-8260042,8260044-8260050		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Result	LOQ**	MDL
	mg/kg	mg/kg	mg/kg
Thallium	< 0.200	0.200	0.0300
Batch number: 160610637001B	Sample number(s): 8260037-8260042,8260044-8260050		
Selenium	< 0.800	0.800	0.100
Batch number: 160610638001	Sample number(s): 8260037-8260042,8260044-8260050		
Mercury	< 0.200	0.200	0.0100
	mg/l	mg/l	mg/l
Batch number: 160615713004	Sample number(s): 8260051		
Mercury	< 0.00020	0.00020	0.000050
Batch number: 160620635001	Sample number(s): 8260051		
Aluminum	< 0.200	0.200	0.0929
Barium	< 0.0050	0.0050	0.0012
Calcium	< 0.200	0.200	0.0347
Cobalt	< 0.0050	0.0050	0.00090
Copper	< 0.0100	0.0100	0.0032
Iron	< 0.200	0.200	0.0333
Lead	< 0.0150	0.0150	0.0051
Magnesium	< 0.100	0.100	0.0167
Manganese	< 0.0050	0.0050	0.0012
Nickel	< 0.0100	0.0100	0.0025
Potassium	< 0.500	0.500	0.192
Sodium	< 1.00	1.00	0.167
Titanium	< 0.0100	0.0100	0.0037
Vanadium	< 0.0050	0.0050	0.0023
Zinc	< 0.0200	0.0200	0.0039
Batch number: 160620639002A	Sample number(s): 8260051		
Antimony	< 0.0020	0.0020	0.00033
Arsenic	< 0.0040	0.0040	0.00054
Beryllium	< 0.0010	0.0010	0.000071
Cadmium	< 0.0010	0.0010	0.00023
Chromium	< 0.0040	0.0040	0.00070
Silver	< 0.0010	0.0010	0.00011
Thallium	< 0.0010	0.0010	0.00015
Batch number: 160620639002B	Sample number(s): 8260051		
Selenium	< 0.0040	0.0040	0.00050

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A160593AA	Sample number(s): 8260038-8260039,8260043								
Acetone	150	139.42	150	145.91	93	97	46-139	5	30
Benzene	20	20.94	20	20.72	105	104	80-120	1	30
Bromodichloromethane	20	19.61	20	19.21	98	96	75-120	2	30
Bromoform	20	17.96	20	18	90	90	64-120	0	30
Bromomethane	20	18.53	20	18	93	90	16-200	3	30
2-Butanone	150	119.11	150	123.05	79	82	54-129	3	30
Carbon Disulfide	20	20.57	20	19.98	103	100	60-120	3	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Carbon Tetrachloride	20	22.08	20	21.78	110	109	69-130	1	30
Chlorobenzene	20	20.75	20	20.7	104	104	80-120	0	30
Chloroethane	20	18.23	20	17.81	91	89	11-200	2	30
Chloroform	20	21.37	20	20.64	107	103	80-120	3	30
Chloromethane	20	16.91	20	17.19	85	86	56-120	2	30
Cyclohexane	20	17.73	20	17.47	89	87	58-120	2	30
1,2-Dibromo-3-chloropropane	20	15.46	20	16.07	77	80	54-120	4	30
Dibromochloromethane	20	19.24	20	19.18	96	96	77-120	0	30
1,2-Dibromoethane	20	19.84	20	20.08	99	100	80-120	1	30
1,2-Dichlorobenzene	20	20.11	20	20.13	101	101	80-120	0	30
1,3-Dichlorobenzene	20	20.05	20	20.03	100	100	80-120	0	30
1,4-Dichlorobenzene	20	19.96	20	19.95	100	100	80-120	0	30
Dichlorodifluoromethane	20	18.88	20	18.58	94	93	28-131	2	30
1,1-Dichloroethane	20	19.89	20	19.63	99	98	77-120	1	30
1,2-Dichloroethane	20	19.82	20	19.64	99	98	77-130	1	30
1,1-Dichloroethene	20	21.68	20	21.13	108	106	73-129	3	30
cis-1,2-Dichloroethene	20	21.91	20	21.53	110	108	80-120	2	30
trans-1,2-Dichloroethene	20	22.8	20	22.51	114	113	80-125	1	30
1,2-Dichloropropane	20	20.14	20	20.05	101	100	76-120	0	30
cis-1,3-Dichloropropene	20	18.04	20	17.98	90	90	74-120	0	30
trans-1,3-Dichloropropene	20	18.58	20	18.35	93	92	76-120	1	30
Ethylbenzene	20	19.73	20	19.72	99	99	80-120	0	30
Freon 113	20	21.73	20	21.69	109	108	57-141	0	30
2-Hexanone	100	63.81	100	63.77	64	64	39-120	0	30
Isopropylbenzene	20	19.83	20	19.61	99	98	70-120	1	30
Methyl Acetate	20	17.36	20	17.45	87	87	52-146	1	30
Methyl Tertiary Butyl Ether	20	19.18	20	19.25	96	96	72-120	0	30
4-Methyl-2-pentanone	100	67.04	100	67.99	67	68	50-120	1	30
Methylcyclohexane	20	19.25	20	19.12	96	96	52-128	1	30
Methylene Chloride	20	23.79	20	23.58	119	118	76-122	1	30
Styrene	20	19.86	20	19.67	99	98	76-120	1	30
1,1,2,2-Tetrachloroethane	20	18.28	20	18.4	91	92	67-121	1	30
Tetrachloroethene	20	21.4	20	21.19	107	106	78-120	1	30
Toluene	20	20.61	20	20.42	103	102	80-120	1	30
1,2,4-Trichlorobenzene	20	16.66	20	16.67	83	83	55-120	0	30
1,1,1-Trichloroethane	20	20.7	20	20.22	103	101	66-128	2	30
1,1,2-Trichloroethane	20	19.34	20	19.74	97	99	80-120	2	30
Trichloroethene	20	21.7	20	21.14	109	106	80-120	3	30
Trichlorofluoromethane	20	20.34	20	19.72	102	99	54-140	3	30
Vinyl Chloride	20	18.32	20	18.03	92	90	59-120	2	30
Xylene (Total)	60	60.22	60	59.41	100	99	80-120	1	30
Batch number: A160612AA	Sample number(s): 8260037,8260041-8260042,8260044-8260045,8260048-8260050								
Acetone	150	148.09	150	149.71	99	100	46-139	1	30
Benzene	20	20.46	20	19.99	102	100	80-120	2	30
Bromodichloromethane	20	20.23	20	19.79	101	99	75-120	2	30
Bromoform	20	18.85	20	18.06	94	90	64-120	4	30
Bromomethane	20	18.98	20	18.99	95	95	16-200	0	30
2-Butanone	150	121.36	150	120.82	81	81	54-129	0	30
Carbon Disulfide	20	19.73	20	19.57	99	98	60-120	1	30
Carbon Tetrachloride	20	23.77	20	23.45	119	117	69-130	1	30
Chlorobenzene	20	20.83	20	20.62	104	103	80-120	1	30
Chloroethane	20	17.97	20	17.82	90	89	11-200	1	30
Chloroform	20	21.87	20	21.72	109	109	80-120	1	30

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chloromethane	20	16.12	20	16.43	81	82	56-120	2	30
Cyclohexane	20	16.69	20	16.81	83	84	58-120	1	30
1,2-Dibromo-3-chloropropane	20	16.35	20	15.95	82	80	54-120	3	30
Dibromochloromethane	20	19.88	20	19.42	99	97	77-120	2	30
1,2-Dibromoethane	20	19.26	20	19.18	96	96	80-120	0	30
1,2-Dichlorobenzene	20	20.55	20	19.96	103	100	80-120	3	30
1,3-Dichlorobenzene	20	20.06	20	19.73	100	99	80-120	2	30
1,4-Dichlorobenzene	20	20.2	20	19.9	101	99	80-120	1	30
Dichlorodifluoromethane	20	21.33	20	20.7	107	103	28-131	3	30
1,1-Dichloroethane	20	19.59	20	19.47	98	97	77-120	1	30
1,2-Dichloroethane	20	20.89	20	20.94	104	105	77-130	0	30
1,1-Dichloroethene	20	21.75	20	21.19	109	106	73-129	3	30
cis-1,2-Dichloroethene	20	21.55	20	21.53	108	108	80-120	0	30
trans-1,2-Dichloroethene	20	22.7	20	22.21	114	111	80-125	2	30
1,2-Dichloropropane	20	19.32	20	19.28	97	96	76-120	0	30
cis-1,3-Dichloropropene	20	16.87	20	17.07	84	85	74-120	1	30
trans-1,3-Dichloropropene	20	17.92	20	18.03	90	90	76-120	1	30
Ethylbenzene	20	19.65	20	19.33	98	97	80-120	2	30
Freon 113	20	23.45	20	22.33	117	112	57-141	5	30
2-Hexanone	100	59.05	100	59.76	59	60	39-120	1	30
Isopropylbenzene	20	19.62	20	19.09	98	95	70-120	3	30
Methyl Acetate	20	16.47	20	15.64	82	78	52-146	5	30
Methyl Tertiary Butyl Ether	20	18.6	20	18.7	93	94	72-120	1	30
4-Methyl-2-pentanone	100	63.07	100	63	63	63	50-120	0	30
Methylcyclohexane	20	18.64	20	18.24	93	91	52-128	2	30
Methylene Chloride	20	23.01	20	22.74	115	114	76-122	1	30
Styrene	20	19.82	20	19.41	99	97	76-120	2	30
1,1,2,2-Tetrachloroethane	20	17.24	20	17.13	86	86	67-121	1	30
Tetrachloroethene	20	21.58	20	21.26	108	106	78-120	1	30
Toluene	20	20.03	20	19.62	100	98	80-120	2	30
1,2,4-Trichlorobenzene	20	17.06	20	16.62	85	83	55-120	3	30
1,1,1-Trichloroethane	20	21.31	20	20.97	107	105	66-128	2	30
1,1,2-Trichloroethane	20	19.18	20	19.18	96	96	80-120	0	30
Trichloroethene	20	21.58	20	21.76	108	109	80-120	1	30
Trichlorofluoromethane	20	22.78	20	22.01	114	110	54-140	3	30
Vinyl Chloride	20	17.15	20	17.53	86	88	59-120	2	30
Xylene (Total)	60	59.44	60	58.31	99	97	80-120	2	30
Batch number: A160642AA	Sample number(s): 8260046								
Acetone	150	140.55	150	134.94	94	90	46-139	4	30
Benzene	20	20.42	20	20.36	102	102	80-120	0	30
Bromodichloromethane	20	21.09	20	21.17	105	106	75-120	0	30
Bromoform	20	20.87	20	19.64	104	98	64-120	6	30
Bromomethane	20	18.9	20	18.75	94	94	16-200	1	30
2-Butanone	150	118.2	150	117.85	79	79	54-129	0	30
Carbon Disulfide	20	19.61	20	19.24	98	96	60-120	2	30
Carbon Tetrachloride	20	24.57	20	24.3	123	122	69-130	1	30
Chlorobenzene	20	21.31	20	21.22	107	106	80-120	0	30
Chloroethane	20	17.43	20	17.57	87	88	11-200	1	30
Chloroform	20	22.24	20	22.3	111	112	80-120	0	30
Chloromethane	20	14.89	20	15.58	74	78	56-120	4	30
Cyclohexane	20	16.1	20	16.3	81	81	58-120	1	30
1,2-Dibromo-3-chloropropane	20	17.94	20	16.29	90	81	54-120	10	30
Dibromochloromethane	20	21.23	20	20.62	106	103	77-120	3	30

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(2) The unspiked result was more than four times the spike added.
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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dibromoethane	20	20.48	20	19.97	102	100	80-120	3	30
1,2-Dichlorobenzene	20	21.22	20	21.12	106	106	80-120	0	30
1,3-Dichlorobenzene	20	20.44	20	20.46	102	102	80-120	0	30
1,4-Dichlorobenzene	20	20.69	20	20.68	103	103	80-120	0	30
Dichlorodifluoromethane	20	19.2	20	19.12	96	96	28-131	0	30
1,1-Dichloroethane	20	19.67	20	19.58	98	98	77-120	0	30
1,2-Dichloroethane	20	21.95	20	21.7	110	109	77-130	1	30
1,1-Dichloroethene	20	21.3	20	21.18	106	106	73-129	1	30
cis-1,2-Dichloroethene	20	21.83	20	21.57	109	108	80-120	1	30
trans-1,2-Dichloroethene	20	23.05	20	22.95	115	115	80-125	0	30
1,2-Dichloropropane	20	19.31	20	19.03	97	95	76-120	1	30
cis-1,3-Dichloropropene	20	17.44	20	17.6	87	88	74-120	1	30
trans-1,3-Dichloropropene	20	18.64	20	19.15	93	96	76-120	3	30
Ethylbenzene	20	19.87	20	19.72	99	99	80-120	1	30
Freon 113	20	23.15	20	22.13	116	111	57-141	5	30
2-Hexanone	100	68.19	100	61.97	68	62	39-120	10	30
Isopropylbenzene	20	19.76	20	19.58	99	98	70-120	1	30
Methyl Acetate	20	17.87	20	16.59	89	83	52-146	7	30
Methyl Tertiary Butyl Ether	20	19.19	20	19.09	96	95	72-120	1	30
4-Methyl-2-pentanone	100	71.49	100	65.3	71	65	50-120	9	30
Methylcyclohexane	20	18.4	20	18.17	92	91	52-128	1	30
Methylene Chloride	20	21.74	20	21.73	109	109	76-122	0	30
Styrene	20	20.32	20	19.9	102	100	76-120	2	30
1,1,2,2-Tetrachloroethane	20	18.26	20	17.89	91	89	67-121	2	30
Tetrachloroethene	20	21.84	20	21.76	109	109	78-120	0	30
Toluene	20	19.81	20	19.94	99	100	80-120	1	30
1,2,4-Trichlorobenzene	20	17.62	20	16.77	88	84	55-120	5	30
1,1,1-Trichloroethane	20	21.54	20	21.53	108	108	66-128	0	30
1,1,2-Trichloroethane	20	19.82	20	19.71	99	99	80-120	1	30
Trichloroethene	20	22.52	20	21.96	113	110	80-120	3	30
Trichlorofluoromethane	20	22.83	20	22.43	114	112	54-140	2	30
Vinyl Chloride	20	16.36	20	16.93	82	85	59-120	3	30
Xylene (Total)	60	60.36	60	59.81	101	100	80-120	1	30
Batch number: R160621AA	Sample number(s): 8260047								
Acetone	7500	5884.62	7500	6400.79	78	85	46-139	8	30
Benzene	1000	958.42	1000	1013.67	96	101	80-120	6	30
Bromodichloromethane	1000	933.44	1000	981.78	93	98	75-120	5	30
Bromoform	1000	966.71	1000	1015.78	97	102	64-120	5	30
Bromomethane	1000	863.59	1000	938.51	86	94	16-200	8	30
2-Butanone	7500	6714.92	7500	7367.85	90	98	54-129	9	30
Carbon Disulfide	1000	1013.78	1000	1113.78	101	111	60-120	9	30
Carbon Tetrachloride	1000	948.08	1000	987.89	95	99	69-130	4	30
Chlorobenzene	1000	930.58	1000	968.72	93	97	80-120	4	30
Chloroethane	1000	832.18	1000	885.73	83	89	11-200	6	30
Chloroform	1000	959.17	1000	1006.85	96	101	80-120	5	30
Chloromethane	1000	783.29	1000	830.32	78	83	56-120	6	30
Cyclohexane	1000	854.4	1000	865.28	85	87	58-120	1	30
1,2-Dibromo-3-chloropropane	1000	836.86	1000	868.87	84	87	54-120	4	30
Dibromochloromethane	1000	974.91	1000	1033.12	97	103	77-120	6	30
1,2-Dibromoethane	1000	992.22	1000	1058	99	106	80-120	6	30
1,2-Dichlorobenzene	1000	989.92	1000	1016.3	99	102	80-120	3	30
1,3-Dichlorobenzene	1000	999.05	1000	1033.4	100	103	80-120	3	30
1,4-Dichlorobenzene	1000	973.61	1000	1017.84	97	102	80-120	4	30

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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dichlorodifluoromethane	1000	550.04	1000	566.19	55	57	28-131	3	30
1,1-Dichloroethane	1000	959.1	1000	997.44	96	100	77-120	4	30
1,2-Dichloroethane	1000	965.02	1000	1014.21	97	101	77-130	5	30
1,1-Dichloroethene	1000	1000.04	1000	1049.91	100	105	73-129	5	30
cis-1,2-Dichloroethene	1000	989.31	1000	1049.66	99	105	80-120	6	30
trans-1,2-Dichloroethene	1000	1031.43	1000	1057.97	103	106	80-125	3	30
1,2-Dichloropropane	1000	970.39	1000	1037.85	97	104	76-120	7	30
cis-1,3-Dichloropropene	1000	979.87	1000	1031.08	98	103	74-120	5	30
trans-1,3-Dichloropropene	1000	1012.19	1000	1077.68	101	108	76-120	6	30
Ethylbenzene	1000	922.73	1000	972.84	92	97	80-120	5	30
Freon 113	1000	847.94	1000	864.08	85	86	57-141	2	30
2-Hexanone	5000	4966.54	5000	5118.84	99	102	39-120	3	30
Isopropylbenzene	1000	941.68	1000	987.55	94	99	70-120	5	30
Methyl Acetate	1000	943.42	1000	970.11	94	97	52-146	3	30
Methyl Tertiary Butyl Ether	1000	963.89	1000	1009.83	96	101	72-120	5	30
4-Methyl-2-pentanone	5000	4906.08	5000	5166.51	98	103	50-120	5	30
Methylcyclohexane	1000	820.65	1000	832.48	82	83	52-128	1	30
Methylene Chloride	1000	1022.59	1000	1084.7	102	108	76-122	6	30
Styrene	1000	900.61	1000	957.4	90	96	76-120	6	30
1,1,2,2-Tetrachloroethane	1000	930.46	1000	989.43	93	99	67-121	6	30
Tetrachloroethene	1000	990.49	1000	1029.78	99	103	78-120	4	30
Toluene	1000	975.33	1000	1045.31	98	105	80-120	7	30
1,2,4-Trichlorobenzene	1000	1106.06	1000	1048.3	111	105	55-120	5	30
1,1,1-Trichloroethane	1000	923.87	1000	963.51	92	96	66-128	4	30
1,1,2-Trichloroethane	1000	964.15	1000	1016.28	96	102	80-120	5	30
Trichloroethene	1000	973.84	1000	1024.39	97	102	80-120	5	30
Trichlorofluoromethane	1000	880.49	1000	888.73	88	89	54-140	1	30
Vinyl Chloride	1000	807.41	1000	850.93	81	85	59-120	5	30
Xylene (Total)	3000	2839.23	3000	2970.45	95	99	80-120	5	30
Batch number: R160633AA	Sample number(s): 8260040								
Acetone	7500	5947.81	7500	5883.26	79	78	46-139	1	30
Benzene	1000	1016.25	1000	994.06	102	99	80-120	2	30
Bromodichloromethane	1000	981.81	1000	961.94	98	96	75-120	2	30
Bromoform	1000	1013.01	1000	951.39	101	95	64-120	6	30
Bromomethane	1000	802.2	1000	785.36	80	79	16-200	2	30
2-Butanone	7500	6680.7	7500	6639.34	89	89	54-129	1	30
Carbon Disulfide	1000	1117.19	1000	1063.06	112	106	60-120	5	30
Carbon Tetrachloride	1000	1012.75	1000	978.97	101	98	69-130	3	30
Chlorobenzene	1000	957.16	1000	937.37	96	94	80-120	2	30
Chloroethane	1000	827.45	1000	802.55	83	80	11-200	3	30
Chloroform	1000	1020.69	1000	983.41	102	98	80-120	4	30
Chloromethane	1000	851.87	1000	812.01	85	81	56-120	5	30
Cyclohexane	1000	969.45	1000	969.95	97	97	58-120	0	30
1,2-Dibromo-3-chloropropane	1000	734.6	1000	710.89	73	71	54-120	3	30
Dibromochloromethane	1000	1013.51	1000	958.97	101	96	77-120	6	30
1,2-Dibromoethane	1000	1018.74	1000	978.1	102	98	80-120	4	30
1,2-Dichlorobenzene	1000	973.83	1000	949.08	97	95	80-120	3	30
1,3-Dichlorobenzene	1000	1006.03	1000	972.49	101	97	80-120	3	30
1,4-Dichlorobenzene	1000	979.85	1000	946.42	98	95	80-120	3	30
Dichlorodifluoromethane	1000	716.94	1000	694.34	72	69	28-131	3	30
1,1-Dichloroethane	1000	1020.76	1000	965.35	102	97	77-120	6	30
1,2-Dichloroethane	1000	992.94	1000	968.42	99	97	77-130	2	30
1,1-Dichloroethene	1000	1083.72	1000	1040.02	108	104	73-129	4	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
cis-1,2-Dichloroethene	1000	1081.26	1000	1038.75	108	104	80-120	4	30
trans-1,2-Dichloroethene	1000	1079.66	1000	1067.89	108	107	80-125	1	30
1,2-Dichloropropane	1000	1022.69	1000	1017.33	102	102	76-120	1	30
cis-1,3-Dichloropropene	1000	1031.6	1000	1006.77	103	101	74-120	2	30
trans-1,3-Dichloropropene	1000	1009.87	1000	967.42	101	97	76-120	4	30
Ethylbenzene	1000	932.78	1000	904.84	93	90	80-120	3	30
Freon 113	1000	1025.79	1000	982.49	103	98	57-141	4	30
2-Hexanone	5000	4865.7	5000	4668.55	97	93	39-120	4	30
Isopropylbenzene	1000	966.8	1000	926.69	97	93	70-120	4	30
Methyl Acetate	1000	1018.89	1000	939.06	102	94	52-146	8	30
Methyl Tertiary Butyl Ether	1000	1019.83	1000	969.28	102	97	72-120	5	30
4-Methyl-2-pentanone	5000	4831.86	5000	4797	97	96	50-120	1	30
Methylcyclohexane	1000	954.09	1000	976.12	95	98	52-128	2	30
Methylene Chloride	1000	1097.45	1000	1044.86	110	104	76-122	5	30
Styrene	1000	930.48	1000	896.01	93	90	76-120	4	30
1,1,2,2-Tetrachloroethane	1000	895.34	1000	931	90	93	67-121	4	30
Tetrachloroethene	1000	1059.19	1000	983.48	106	98	78-120	7	30
Toluene	1000	1030.92	1000	944.51	103	94	80-120	9	30
1,2,4-Trichlorobenzene	1000	1110.82	1000	975.29	111	98	55-120	13	30
1,1,1-Trichloroethane	1000	961.53	1000	934.5	96	93	66-128	3	30
1,1,2-Trichloroethane	1000	989.93	1000	935.32	99	94	80-120	6	30
Trichloroethene	1000	1031.17	1000	1008.48	103	101	80-120	2	30
Trichlorofluoromethane	1000	965.5	1000	940.98	97	94	54-140	3	30
Vinyl Chloride	1000	895.19	1000	836.94	90	84	59-120	7	30
Xylene (Total)	3000	2916.86	3000	2816.9	97	94	80-120	3	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: Y160603AA	Sample number(s): 8260051								
Acetone	150	194.11	150	181.35	129	121	58-138	7	30
Benzene	20	19.53	20	19.95	98	100	78-120	2	30
Bromodichloromethane	20	16.63	20	16.73	83	84	80-120	1	30
Bromoform	20	13.78	20	14.01	69	70	67-120	2	30
Bromomethane	20	16.2	20	16.7	81	84	53-130	3	30
2-Butanone	150	133.81	150	132.69	89	88	62-131	1	30
Carbon Disulfide	20	15.03	20	15.08	75	75	58-120	0	30
Carbon Tetrachloride	20	16.64	20	16.98	83	85	74-130	2	30
Chlorobenzene	20	19.5	20	19.88	98	99	80-120	2	30
Chloroethane	20	17.09	20	17.28	85	86	56-120	1	30
Chloroform	20	18.99	20	19.07	95	95	80-120	0	30
Chloromethane	20	18.95	20	18.96	95	95	65-129	0	30
Cyclohexane	20	16.98	20	17.38	85	87	65-123	2	30
1,2-Dibromo-3-chloropropane	20	15.24	20	15.37	76	77	59-120	1	30
Dibromochloromethane	20	16.34	20	16.37	82	82	78-120	0	30
1,2-Dibromoethane	20	19.08	20	19.34	95	97	80-120	1	30
1,2-Dichlorobenzene	20	19.33	20	19.59	97	98	80-120	1	30
1,3-Dichlorobenzene	20	19.08	20	19.4	95	97	80-120	2	30
1,4-Dichlorobenzene	20	19.49	20	19.76	97	99	80-120	1	30
Dichlorodifluoromethane	20	16.65	20	16.79	83	84	49-127	1	30
1,1-Dichloroethane	20	18.6	20	18.99	93	95	80-120	2	30
1,2-Dichloroethane	20	18.51	20	18.95	93	95	72-127	2	30
1,1-Dichloroethene	20	17.93	20	18.17	90	91	76-124	1	30
cis-1,2-Dichloroethene	20	19.4	20	19.46	97	97	80-120	0	30
trans-1,2-Dichloroethene	20	19.62	20	19.59	98	98	80-120	0	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloropropane	20	19.78	20	20.24	99	101	80-120	2	30
cis-1,3-Dichloropropene	20	17.26	20	17.69	86	88	80-120	2	30
trans-1,3-Dichloropropene	20	17.11	20	17.62	86	88	76-120	3	30
Ethylbenzene	20	18.9	20	19.34	95	97	78-120	2	30
Freon 113	20	17.88	20	17.93	89	90	64-136	0	30
2-Hexanone	100	87.35	100	88.62	87	89	35-138	1	30
Isopropylbenzene	20	18.09	20	18.54	90	93	80-120	2	30
Methyl Acetate	20	19.19	20	19.28	96	96	61-137	1	30
Methyl Tertiary Butyl Ether	20	17.41	20	17.41	87	87	75-120	0	30
4-Methyl-2-pentanone	100	88.09	100	88.87	88	89	47-133	1	30
Methylcyclohexane	20	17.45	20	18.05	87	90	66-126	3	30
Methylene Chloride	20	19.34	20	19.4	97	97	77-121	0	30
Styrene	20	17.94	20	18.26	90	91	80-120	2	30
1,1,2,2-Tetrachloroethane	20	19.21	20	19.37	96	97	72-120	1	30
Tetrachloroethene	20	18.84	20	19.4	94	97	80-129	3	30
Toluene	20	19.1	20	19.54	95	98	80-120	2	30
1,2,4-Trichlorobenzene	20	17.49	20	17.86	87	89	66-120	2	30
1,1,1-Trichloroethane	20	14.96	20	15.35	75	77	66-126	3	30
1,1,2-Trichloroethane	20	19.15	20	19.69	96	98	80-120	3	30
Trichloroethene	20	19.07	20	19.6	95	98	80-120	3	30
Trichlorofluoromethane	20	18.65	20	18.76	93	94	67-129	1	30
Vinyl Chloride	20	18.67	20	18.36	93	92	69-120	2	30
Xylene (Total)	60	56.03	60	57.9	93	97	80-120	3	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16062SLI026	Sample number(s): 8260037-8260042,8260044-8260050								
Acenaphthene	833.33	903.57			108		83-116		
Acenaphthylene	833.33	925.66			111		83-119		
Acetophenone	833.33	851.47			102		74-116		
Anthracene	833.33	918.53			110		82-118		
Atrazine	416.67	385.28			92		62-143		
Benzaldehyde	833.33	254.84			31		10-93		
Benzo(a)anthracene	833.33	873.15			105		76-119		
Benzo(a)pyrene	833.33	903.07			108		85-117		
Benzo(b)fluoranthene	833.33	976.36			117		78-129		
Benzo(g,h,i)perylene	833.33	929.4			112		77-118		
Benzo(k)fluoranthene	833.33	918.97			110		79-120		
1,1'-Biphenyl	833.33	799.66			96		76-111		
4-Bromophenyl-phenylether	833.33	946.52			114		84-120		
Butylbenzylphthalate	833.33	952.81			114		80-118		
Di-n-butylphthalate	833.33	917.25			110		84-120		
Caprolactam	416.67	360.42			87		73-119		
Carbazole	833.33	859.95			103		78-117		
4-Chloro-3-methylphenol	833.33	916.54			110		79-127		
4-Chloroaniline	833.33	235.01			28		10-100		
bis(2-Chloroethoxy)methane	833.33	878.03			105		77-116		
bis(2-Chloroethyl)ether	833.33	851.58			102		77-115		
2-Chloronaphthalene	833.33	733.78			88		63-146		
2-Chlorophenol	833.33	941.67			113		85-123		
4-Chlorophenyl-phenylether	833.33	955.25			115		81-120		
2,2'-oxybis(1-Chloropropane)	833.33	917.63			110		61-134		
Chrysene	833.33	878.59			105		80-121		
Dibenz(a,h)anthracene	833.33	946.04			114		81-123		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dibenzofuran	833.33	896.22			108		85-115		
3,3'-Dichlorobenzidine	833.33	695.04			83		10-116		
2,4-Dichlorophenol	833.33	925.05			111		86-125		
Diethylphthalate	833.33	916.71			110		81-118		
2,4-Dimethylphenol	833.33	926.82			111		83-120		
Dimethylphthalate	833.33	891.94			107		82-113		
4,6-Dinitro-2-methylphenol	833.33	926.54			111		46-134		
2,4-Dinitrophenol	1666.67	1660.18			100		16-132		
2,4-Dinitrotoluene	833.33	899.52			108		81-122		
2,6-Dinitrotoluene	833.33	974.77			117		86-125		
bis(2-Ethylhexyl)phthalate	833.33	963.03			116		81-121		
Fluoranthene	833.33	864.09			104		81-117		
Fluorene	833.33	915.53			110		86-118		
Hexachlorobenzene	833.33	842.7			101		79-116		
Hexachlorobutadiene	833.33	1038.24			125*		72-120		
Hexachlorocyclopentadiene	1666.67	2180.79			131		64-137		
Hexachloroethane	833.33	933.32			112		78-114		
Indeno(1,2,3-cd)pyrene	833.33	876.99			105		81-118		
Isophorone	833.33	889.33			107		77-118		
2-Methylnaphthalene	833.33	835.07			100		83-109		
2-Methylphenol	833.33	970.8			116		80-133		
4-Methylphenol	833.33	871.48			105		73-125		
Naphthalene	833.33	879.25			106		82-112		
2-Nitroaniline	833.33	876.59			105		84-126		
3-Nitroaniline	833.33	852.15			102		66-119		
4-Nitroaniline	833.33	761.59			91		44-110		
Nitrobenzene	833.33	922.16			111		70-122		
2-Nitrophenol	833.33	983.3			118		83-120		
4-Nitrophenol	833.33	875.74			105		52-133		
N-Nitroso-di-n-propylamine	833.33	904.07			108		67-121		
N-Nitrosodiphenylamine	833.33	911.59			109		83-118		
Di-n-octylphthalate	833.33	1102.16			132		80-140		
Pentachlorophenol	833.33	871.79			105		57-126		
Phenanthrene	833.33	822.07			99		80-114		
Phenol	833.33	880.34			106		73-122		
Pyrene	833.33	911			109		81-114		
2,4,5-Trichlorophenol	833.33	1005.8			121		86-123		
2,4,6-Trichlorophenol	833.33	1005.97			121		81-123		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16058WAM026	Sample number(s): 8260051								
Acenaphthene	50	47.49			95		69-123		
Acenaphthylene	50	46.73			93		67-125		
Acetophenone	50	48.38			97		61-124		
Anthracene	50	46.02			92		68-126		
Atrazine	50	48.46			97		62-140		
Benzaldehyde	50	9.54			19		10-123		
Benzo(a)anthracene	50	41.79			84		69-133		
Benzo(a)pyrene	50	42.8			86		68-126		
Benzo(b)fluoranthene	50	43.08			86		71-131		
Benzo(g,h,i)perylene	50	46.5			93		62-132		
Benzo(k)fluoranthene	50	40.99			82		72-128		
1,1'-Biphenyl	50	44.62			89		59-124		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
4-Bromophenyl-phenylether	50	45.46			91		64-129		
Butylbenzylphthalate	50	33.4			67		56-124		
Di-n-butylphthalate	50	41.33			83		61-125		
Caprolactam	50	15.85			32		11-51		
Carbazole	50	46.23			92		64-126		
4-Chloro-3-methylphenol	50	54.41			109		65-125		
4-Chloroaniline	50	40.03			80		45-115		
bis(2-Chloroethoxy)methane	50	48.93			98		67-124		
bis(2-Chloroethyl)ether	50	64.68			129*		65-120		
2-Chloronaphthalene	50	48.62			97		57-126		
2-Chlorophenol	50	45.65			91		59-120		
4-Chlorophenyl-phenylether	50	48.74			97		67-125		
2,2'-oxybis(1-Chloropropane)	50	55.79			112		56-128		
Chrysene	50	41.16			82		71-136		
Dibenz(a,h)anthracene	50	46.11			92		64-133		
Dibenzofuran	50	47.56			95		67-120		
3,3'-Dichlorobenzidine	50	37.19			74		39-118		
2,4-Dichlorophenol	50	51.46			103		66-126		
Diethylphthalate	50	36.18			72		55-124		
2,4-Dimethylphenol	50	50.52			101		63-117		
Dimethylphthalate	50	21.82			44		26-133		
4,6-Dinitro-2-methylphenol	50	41.84			84		64-124		
2,4-Dinitrophenol	100	52.27			52		42-129		
2,4-Dinitrotoluene	50	49.73			99		71-131		
2,6-Dinitrotoluene	50	50.44			101		71-133		
bis(2-Ethylhexyl)phthalate	50	40.44			81		66-130		
Fluoranthene	50	45.25			90		68-129		
Fluorene	50	48.87			98		71-127		
Hexachlorobenzene	50	43.41			87		64-128		
Hexachlorobutadiene	50	45.58			91		23-129		
Hexachlorocyclopentadiene	100	51.57			52		10-101		
Hexachloroethane	50	41.79			84		23-121		
Indeno(1,2,3-cd)pyrene	50	44			88		62-128		
Isophorone	50	53.33			107		68-125		
2-Methylnaphthalene	50	45.23			90		61-117		
2-Methylphenol	50	46.91			94		54-122		
4-Methylphenol	50	41.68			83		44-114		
Naphthalene	50	47.45			95		62-121		
2-Nitroaniline	50	48.39			97		68-130		
3-Nitroaniline	50	42.25			85		58-122		
4-Nitroaniline	50	42.78			86		61-111		
Nitrobenzene	50	53.48			107		70-121		
2-Nitrophenol	50	50.47			101		67-131		
4-Nitrophenol	50	30.53			61		11-88		
N-Nitroso-di-n-propylamine	50	47.92			96		63-121		
N-Nitrosodiphenylamine	50	47.64			95		65-125		
Di-n-octylphthalate	50	42.71			85		73-131		
Pentachlorophenol	50	43.11			86		53-133		
Phenanthrene	50	45.4			91		65-120		
Phenol	50	27.44			55		19-82		
Pyrene	50	43.27			87		68-118		
2,4,5-Trichlorophenol	50	50.51			101		68-126		
2,4,6-Trichlorophenol	50	51.44			103		71-130		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 160620006A	Sample number(s): 8260037-8260042,8260044-8260050								
4-Amino-2,6-Dinitrotoluene	2010	2140.19			106		42-138		
2-Amino-4,6-Dinitrotoluene	2010	2207.48			110		43-141		
2,6-Diamino-4-nitrotoluene	1800	1854	1800	1854.31	103	103	80-115	0	50
2,4-Diamino-6-nitrotoluene	1810	1740.59	1810	1716.42	96	95	79-115	1	50
3,5-Dinitroaniline	2000	2225.08			111		47-141		
1,3-Dinitrobenzene	2000	2271.84			114		54-140		
2,4-Dinitrotoluene	2010	2224.64			111		52-137		
2,6-Dinitrotoluene	2010	2148.71			107		51-138		
HMX	2010	2293.96			114		29-148		
Nitrobenzene	2000	2487.13			124		64-138		
Nitroglycerin	22100	21918.22			99		45-137		
2-Nitrotoluene	2010	2147.14			107		57-135		
3-Nitrotoluene	2010	2119.75			105		57-135		
4-Nitrotoluene	2000	2147.18			107		53-133		
PETN	22100	22306.66			101		36-143		
RDX	2000	2424.11			121		45-145		
Tetryl	2000	2224.59			111		38-152		
1,3,5-Trinitrobenzene	2010	2261.89			113		48-141		
2,4,6-Trinitrotoluene	2000	2242.76			112		47-140		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 160580020A	Sample number(s): 8260051								
4-Amino-2,6-Dinitrotoluene	10	8.90	10	10.13	89	101	70-130	13	30
2-Amino-4,6-Dinitrotoluene	10	8.26	10	9.39	83	94	70-130	13	30
2,6-Diamino-4-nitrotoluene	20	19.51	20	19.62	98	98	70-130	1	30
2,4-Diamino-6-nitrotoluene	20.1	20.28	20.1	20.84	101	104	70-130	3	30
3,5-Dinitroaniline	10	8.34	10	9.40	83	94	70-130	12	30
1,3-Dinitrobenzene	10	8.60	10	9.64	86	96	70-130	11	30
2,4-Dinitrotoluene	10	8.36	10	9.44	84	94	70-130	12	30
2,6-Dinitrotoluene	10	7.97	10	9.13	80	91	70-130	14	30
HMX	10	8.49	10	9.16	85	92	70-130	8	30
Nitrobenzene	10	9.13	10	10.32	91	103	70-130	12	30
Nitroglycerin	110	91.34	110	100.42	83	91	70-130	9	30
2-Nitrotoluene	10	7.84	10	8.99	78	90	70-130	14	30
3-Nitrotoluene	10	7.73	10	8.92	77	89	70-130	14	30
4-Nitrotoluene	10	7.59	10	8.88	76	89	70-130	16	30
PETN	110	94.93	110	105.88	86	96	70-130	11	30
RDX	10	9.10	10	9.88	91	99	70-130	8	30
Tetryl	10	8.10	10	9.02	81	90	70-130	11	30
1,3,5-Trinitrobenzene	10	8.48	10	9.38	85	94	70-130	10	30
2,4,6-Trinitrotoluene	10	8.19	10	9.22	82	92	70-130	12	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 160610007A	Sample number(s): 8260037-8260042,8260044-8260050								
PCB-1016	168	153.47			91		76-121		
PCB-1260	168	184.61			110		79-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 160610002A	Sample number(s): 8260051								
PCB-1016	5.04	4.27	5.04	4.04	85	80	60-117	6	30
PCB-1260	5.05	4.14	5.05	4.04	82	80	57-134	3	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160630031A	Sample number(s): 8260037-8260042,8260044-8260050								
Ethylene glycol	104	90.34			87		76-122		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 160680025A	Sample number(s): 8260051								
Ethylene glycol	104	105.82			102		54-129		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160610637001	Sample number(s): 8260037-8260042,8260044-8260050								
Aluminum	200	198.21			99		80-120		
Barium	200	206.67			103		80-120		
Calcium	400	403.59			101		80-120		
Cobalt	50	52.21			104		80-120		
Copper	25	27.26			109		80-120		
Iron	100	102			102		80-120		
Lead	15	15.75			105		80-120		
Magnesium	200	205.65			103		80-120		
Manganese	50	51.62			103		80-120		
Nickel	50	53.05			106		80-120		
Potassium	1000	1011.29			101		80-120		
Sodium	1000	1013.82			101		80-120		
Titanium	100	103.74			104		80-120		
Vanadium	50	53.31			107		80-120		
Zinc	50	51.13			102		80-120		
Batch number: 160610637001A	Sample number(s): 8260037-8260042,8260044-8260050								
Antimony	0.600	0.618			103		80-120		
Arsenic	1.00	1.12			112		80-120		
Beryllium	0.400	0.463			116		80-120		
Cadmium	0.500	0.502			100		80-120		
Chromium	5.00	5.13			103		80-120		
Silver	5.00	5.19			104		80-120		
Thallium	0.200	0.205			103		80-120		
Batch number: 160610637001B	Sample number(s): 8260037-8260042,8260044-8260050								
Selenium	1.00	1.02			102		80-120		
Batch number: 160610638001	Sample number(s): 8260037-8260042,8260044-8260050								
Mercury	0.100	0.0887			89		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 160615713004	Sample number(s): 8260051								
Mercury	0.00100	0.000836			84		80-120		
Batch number: 160620635001	Sample number(s): 8260051								
Aluminum	2.00	2.01	2.00	2.20	101	110	80-120	9	20
Barium	2.00	2.04	2.00	2.05	102	102	80-120	0	20
Calcium	4.00	4.12	4.00	4.22	103	106	80-120	2	20
Cobalt	0.500	0.503	0.500	0.509	101	102	80-120	1	20
Copper	0.250	0.257	0.250	0.262	103	105	80-120	2	20
Iron	1.00	1.01	1.00	1.02	101	102	80-120	1	20
Lead	0.150	0.145	0.150	0.151	97	101	80-120	4	20
Magnesium	2.00	2.05	2.00	2.09	103	104	80-120	2	20
Manganese	0.500	0.509	0.500	0.513	102	103	80-120	1	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Nickel	0.500	0.505	0.500	0.515	101	103	80-120	2	20
Potassium	10	10.23	10	10.46	102	105	80-120	2	20
Sodium	10	10.31	10	10.52	103	105	80-120	2	20
Titanium	1.00	0.998	1.00	1.01	100	101	80-120	1	20
Vanadium	0.500	0.503	0.500	0.509	101	102	80-120	1	20
Zinc	0.500	0.488	0.500	0.497	98	99	80-120	2	20
Batch number: 160620639002A	Sample number(s): 8260051								
Antimony	0.00600	0.00497	0.00600	0.00554	83	92	80-120	11	20
Arsenic	0.0100	0.0104	0.0100	0.00995	104	100	80-120	4	20
Beryllium	0.00400	0.00393	0.00400	0.00414	98	103	80-120	5	20
Cadmium	0.00500	0.00498	0.00500	0.00503	100	101	80-120	1	20
Chromium	0.0500	0.0501	0.0500	0.0497	100	99	80-120	1	20
Silver	0.0500	0.0497	0.0500	0.0499	99	100	80-120	0	20
Thallium	0.00200	0.00195	0.00200	0.00202	97	101	80-120	3	20
Batch number: 160620639002B	Sample number(s): 8260051								
Selenium	0.0100	0.0101	0.0100	0.0101	101	101	80-120	0	20
	%	%	%	%					
Batch number: 16077820011A	Sample number(s): 8260037-8260042,8260044-8260050								
Moisture	89.5	89.4			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: R160621AA	Sample number(s): 8260047 UNSPK: P260957									
Acetone	< 960	8970.9	7435.09	7562.72	7019.05	83	93	46-139	6	30
Benzene	< 240	1196.12	1093.21	1008.36	1015.33	91	101	80-120	7	30
Bromodichloromethane	< 240	1196.12	1073.69	1008.36	1023.24	90	101	75-120	5	30
Bromoform	< 240	1196.12	1121.95	1008.36	1082.91	94	107	64-120	4	30
Bromomethane	< 240	1196.12	971.92	1008.36	971.31	81	96	16-200	0	30
2-Butanone	< 480	8970.9	8028.56	7562.72	7507.9	89	99	54-129	7	30
Carbon Disulfide	< 240	1196.12	1126.94	1008.36	1078.2	94	107	60-120	4	30
Carbon Tetrachloride	< 240	1196.12	1086.11	1008.36	1043.67	91	104	69-130	4	30
Chlorobenzene	< 240	1196.12	1066.01	1008.36	1004.86	89	100	80-120	6	30
Chloroethane	< 240	1196.12	956.36	1008.36	920.44	80	91	11-200	4	30
Chloroform	< 240	1196.12	1144.49	1008.36	1084.68	96	108	80-120	5	30
Chloromethane	< 240	1196.12	819.42	1008.36	838	69	83	56-120	2	30
Cyclohexane	< 240	1196.12	1032.11	1008.36	896.28	86	89	58-120	14	30
1,2-Dibromo-3-chloropropane	< 240	1196.12	953.7	1008.36	898.24	80	89	54-120	6	30
Dibromochloromethane	< 240	1196.12	1146.65	1008.36	1062.95	96	105	77-120	8	30
1,2-Dibromoethane	< 240	1196.12	1110.9	1008.36	1058.22	93	105	80-120	5	30
1,2-Dichlorobenzene	< 240	1196.12	1082.76	1008.36	1027.82	91	102	80-120	5	30
1,3-Dichlorobenzene	< 240	1196.12	1104.49	1008.36	1042.06	92	103	80-120	6	30
1,4-Dichlorobenzene	< 240	1196.12	1084.02	1008.36	1014.7	91	101	80-120	7	30
Dichlorodifluoromethane	< 240	1196.12	393.92	1008.36	427.07	33	42	28-131	8	30
1,1-Dichloroethane	< 240	1196.12	1109.89	1008.36	1057.91	93	105	77-120	5	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,2-Dichloroethane	< 240	1196.12	1110.9	1008.36	1025.34	93	102	77-130	8	30
1,1-Dichloroethene	84.99	1196.12	1196.77	1008.36	1112.29	93	102	73-129	7	30
cis-1,2-Dichloroethene	< 240	1196.12	1161.16	1008.36	1085.76	97	108	80-120	7	30
trans-1,2-Dichloroethene	< 240	1196.12	1177.67	1008.36	1110.07	98	110	80-125	6	30
1,2-Dichloropropane	< 240	1196.12	1125.14	1008.36	1055.06	94	105	76-120	6	30
cis-1,3-Dichloropropene	< 240	1196.12	1108.22	1008.36	1061.8	93	105	74-120	4	30
trans-1,3-Dichloropropene	< 240	1196.12	1111.27	1008.36	1071.17	93	106	76-120	4	30
Ethylbenzene	< 240	1196.12	1075.82	1008.36	994.99	90	99	80-120	8	30
Freon 113	< 480	1196.12	909.51	1008.36	905.1	76	90	57-141	0	30
2-Hexanone	< 480	5980.6	5711.72	5041.81	5457.62	96	108	39-120	5	30
Isopropylbenzene	< 240	1196.12	1090.75	1008.36	1028.92	91	102	70-120	6	30
Methyl Acetate	< 240	1196.12	1193.06	1008.36	1097.35	100	109	52-146	8	30
Methyl Tertiary Butyl Ether	< 240	1196.12	1140.8	1008.36	1055.41	95	105	72-120	8	30
4-Methyl-2-pentanone	< 480	5980.6	5583.06	5041.81	5323.02	93	106	50-120	5	30
Methylcyclohexane	92.56	1196.12	1259.6	1008.36	953.72	98	85	52-128	28	30
Methylene Chloride	< 240	1196.12	1188.11	1008.36	1112.68	99	110	76-122	7	30
Styrene	< 240	1196.12	1034.1	1008.36	978.14	86	97	76-120	6	30
1,1,2,2-Tetrachloroethane	< 240	1196.12	1091.71	1008.36	1031.67	91	102	67-121	6	30
Tetrachloroethene	34342.72	1196.12	36386.02	1008.36	14968.2	171 (2)	-1920 (2)	78-120	83*	30
Toluene	< 240	1196.12	1225.37	1008.36	1076.85	102	107	80-120	13	30
1,2,4-Trichlorobenzene	< 240	1196.12	1001.39	1008.36	1024.11	84	102	55-120	2	30
1,1,1-Trichloroethane	967.26	1196.12	2183.4	1008.36	1417.54	102	45*	66-128	43*	30
1,1,2-Trichloroethane	< 240	1196.12	1078.59	1008.36	1038.02	90	103	80-120	4	30
Trichloroethene	675.16	1196.12	1895.42	1008.36	1363.61	102	68*	80-120	33*	30
Trichlorofluoromethane	< 240	1196.12	970.35	1008.36	951.99	81	94	54-140	2	30
Vinyl Chloride	< 240	1196.12	833.38	1008.36	840.57	70	83	59-120	1	30
Xylene (Total)	< 240	3588.36	3590.25	3025.09	3099.32	100	102	80-120	15	30
Batch number: R160633AA	Sample number(s): 8260040 UNSPK: P262196									
Acetone	< 1,900	14693.47	13065.4	12860.23	11311.68	89	88	46-139	14	30
Benzene	< 470	1959.13	1873.05	1714.7	1573.3	96	92	80-120	17	30
Bromodichloromethane	< 470	1959.13	1903.84	1714.7	1661.92	97	97	75-120	14	30
Bromoform	< 470	1959.13	1960.7	1714.7	1726.79	100	101	64-120	13	30
Bromomethane	< 470	1959.13	1623.15	1714.7	1389.1	83	81	16-200	16	30
2-Butanone	< 950	14693.47	14275.23	12860.23	11598.32	97	90	54-129	21	30
Carbon Disulfide	< 470	1959.13	1405.12	1714.7	1219.51	72	71	60-120	14	30
Carbon Tetrachloride	< 470	1959.13	1750.15	1714.7	1433.88	89	84	69-130	20	30
Chlorobenzene	< 470	1959.13	1792.7	1714.7	1595.6	92	93	80-120	12	30
Chloroethane	< 470	1959.13	1433.93	1714.7	1194.69	73	70	11-200	18	30
Chloroform	< 470	1959.13	1854.25	1714.7	1658.81	95	97	80-120	11	30
Chloromethane	< 470	1959.13	1142.42	1714.7	979.85	58	57	56-120	15	30
Cyclohexane	< 470	1959.13	1293.01	1714.7	1067.19	66	62	58-120	19	30
1,2-Dibromo-3-chloropropane	< 470	1959.13	1514.64	1714.7	1583.95	77	92	54-120	4	30
Dibromochloromethane	< 470	1959.13	1906.6	1714.7	1668.86	97	97	77-120	13	30
1,2-Dibromoethane	< 470	1959.13	1936.97	1714.7	1723.65	99	101	80-120	12	30
1,2-Dichlorobenzene	< 470	1959.13	1819.53	1714.7	1700.52	93	99	80-120	7	30
1,3-Dichlorobenzene	< 470	1959.13	1887.02	1714.7	1706.15	96	100	80-120	10	30
1,4-Dichlorobenzene	< 470	1959.13	1840.78	1714.7	1648.67	94	96	80-120	11	30
Dichlorodifluoromethane	< 470	1959.13	588.84	1714.7	582.04	30	34	28-131	1	30
1,1-Dichloroethane	< 470	1959.13	1719.45	1714.7	1515.97	88	88	77-120	13	30
1,2-Dichloroethane	< 470	1959.13	1916.1	1714.7	1594.26	98	93	77-130	18	30
1,1-Dichloroethene	< 470	1959.13	1550.01	1714.7	1320.21	79	77	73-129	16	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
cis-1,2-Dichloroethene	< 470	1959.13	1947.38	1714.7	1700.61	99	99	80-120	14	30
trans-1,2-Dichloroethene	< 470	1959.13	1766.56	1714.7	1471.29	90	86	80-125	18	30
1,2-Dichloropropane	< 470	1959.13	1967.33	1714.7	1703.63	100	99	76-120	14	30
cis-1,3-Dichloropropene	< 470	1959.13	1999.33	1714.7	1737.04	102	101	74-120	14	30
trans-1,3-Dichloropropene	< 470	1959.13	1961.19	1714.7	1705.74	100	99	76-120	14	30
Ethylbenzene	< 470	1959.13	1771.87	1714.7	1536.05	90	90	80-120	14	30
Freon 113	< 950	1959.13	1125.59	1714.7	907.18	57	53*	57-141	21	30
2-Hexanone	< 950	9795.65	10035.28	8573.49	8595.65	102	100	39-120	15	30
Isopropylbenzene	< 470	1959.13	1978.5	1714.7	1794.3	101	105	70-120	10	30
Methyl Acetate	< 470	1959.13	2008.07	1714.7	1971.45	102	115	52-146	2	30
Methyl Tertiary Butyl Ether	< 470	1959.13	1906.41	1714.7	1711.97	97	100	72-120	11	30
4-Methyl-2-pentanone	< 950	9795.65	10171.97	8573.49	8694.16	104	101	50-120	16	30
Methylcyclohexane	245.31	1959.13	1507.53	1714.7	1288.45	64	61	52-128	16	30
Methylene Chloride	< 470	1959.13	1860.59	1714.7	1674.33	95	98	76-122	11	30
Styrene	< 470	1959.13	1830.16	1714.7	1595.62	93	93	76-120	14	30
1,1,2,2-Tetrachloroethane	< 470	1959.13	1814.83	1714.7	1592.68	93	93	67-121	13	30
Tetrachloroethene	< 470	1959.13	2785.88	1714.7	2348.61	142*	137*	78-120	17	30
Toluene	< 470	1959.13	1852.94	1714.7	1609.22	95	94	80-120	14	30
1,2,4-Trichlorobenzene	< 470	1959.13	1798.89	1714.7	1801.35	92	105	55-120	0	30
1,1,1-Trichloroethane	< 470	1959.13	1533.39	1714.7	1297.8	78	76	66-128	17	30
1,1,2-Trichloroethane	< 470	1959.13	1916.67	1714.7	1758.95	98	103	80-120	9	30
Trichloroethene	< 470	1959.13	1961.67	1714.7	1659.62	100	97	80-120	17	30
Trichlorofluoromethane	< 470	1959.13	1395.89	1714.7	1181.38	71	69	54-140	17	30
Vinyl Chloride	< 470	1959.13	1092.37	1714.7	978.8	56*	57*	59-120	11	30
Xylene (Total)	< 470	5877.39	5583.63	5144.09	4857.38	95	94	80-120	14	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16062SLI026	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260039									
Acenaphthene	< 17	825.08	871.05	831.67	897.27	106	108	83-116	3	30
Acenaphthylene	< 17	825.08	867.85	831.67	905.62	105	109	83-119	4	30
Acetophenone	< 33	825.08	757.82	831.67	818.45	92	98	74-116	8	30
Anthracene	< 17	825.08	886.96	831.67	957.66	107	115	82-118	8	30
Atrazine	< 170	412.54	399.44	415.83	393.5	97	95	62-143	1	30
Benzaldehyde	< 170	825.08	237.32	831.67	257.52	29	31	10-93	8	30
Benzo(a)anthracene	< 17	825.08	815.45	831.67	861.55	99	104	76-119	5	30
Benzo(a)pyrene	< 17	825.08	800	831.67	861.53	97	104	85-117	7	30
Benzo(b)fluoranthene	< 17	825.08	868.14	831.67	929.49	105	112	78-129	7	30
Benzo(g,h,i)perylene	< 17	825.08	849.69	831.67	910.26	103	109	77-118	7	30
Benzo(k)fluoranthene	< 17	825.08	815.01	831.67	886.82	99	107	79-120	8	30
1,1'-Biphenyl	< 33	825.08	785.47	831.67	824.03	95	99	76-111	5	30
4-Bromophenyl-phenylether	< 33	825.08	902.75	831.67	956.97	109	115	84-120	6	30
Butylbenzylphthalate	< 170	825.08	871.84	831.67	942.54	106	113	80-118	8	30
Di-n-butylphthalate	< 170	825.08	859.59	831.67	952.1	104	114	84-120	10	30
Caprolactam	< 170	412.54	337.23	415.83	395.6	82	95	73-119	16	30
Carbazole	< 33	825.08	842.2	831.67	884.27	102	106	78-117	5	30
4-Chloro-3-methylphenol	< 33	825.08	905.39	831.67	956.14	110	115	79-127	5	30
4-Chloroaniline	< 66	825.08	392.04	831.67	474.45	48	57	10-100	19	30
bis(2-Chloroethoxy)methane	< 33	825.08	824.02	831.67	901.63	100	108	77-116	9	30
bis(2-Chloroethyl)ether	< 33	825.08	802.72	831.67	815.04	97	98	77-115	2	30
2-Chloronaphthalene	< 33	825.08	716.4	831.67	1154.5	87	139	63-146	47*	30
2-Chlorophenol	< 33	825.08	868.96	831.67	936.03	105	113	85-123	7	30
4-Chlorophenyl-phenylether	< 33	825.08	940.44	831.67	960.98	114	116	81-120	2	30
2,2'-oxybis(1-Chloropropane)	< 33	825.08	787.27	831.67	863.53	95	104	61-134	9	30

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Chrysene	< 17	825.08	796.96	831.67	867.73	97	104	80-121	9	30
Dibenz(a,h)anthracene	< 17	825.08	840.52	831.67	937.79	102	113	81-123	11	30
Dibenzofuran	< 33	825.08	861.18	831.67	910.24	104	109	85-115	6	30
3,3'-Dichlorobenzidine	< 330	825.08	677.67	831.67	712.1	82	86	10-116	5	30
2,4-Dichlorophenol	< 33	825.08	932.27	831.67	976.73	113	117	86-125	5	30
Diethylphthalate	< 170	825.08	854.95	831.67	891.19	104	107	81-118	4	30
2,4-Dimethylphenol	< 33	825.08	850.12	831.67	923.8	103	111	83-120	8	30
Dimethylphthalate	< 170	825.08	848.02	831.67	891.07	103	107	82-113	5	30
4,6-Dinitro-2-methylphenol	< 500	825.08	837.52	831.67	969.36	102	117	46-134	15	30
2,4-Dinitrophenol	< 990	1650.17	1218.92	1663.34	1538.78	74	93	16-132	23	30
2,4-Dinitrotoluene	< 170	825.08	885.38	831.67	905.08	107	109	81-122	2	30
2,6-Dinitrotoluene	< 33	825.08	955.5	831.67	1005.25	116	121	86-125	5	30
bis(2-Ethylhexyl)phthalate	< 170	825.08	905.39	831.67	970.7	110	117	81-121	7	30
Fluoranthene	< 17	825.08	817.98	831.67	882.03	99	106	81-117	8	30
Fluorene	< 17	825.08	882.36	831.67	905.84	107	109	86-118	3	30
Hexachlorobenzene	< 17	825.08	836.2	831.67	917.34	101	110	79-116	9	30
Hexachlorobutadiene	< 33	825.08	892.26	831.67	993.22	108	119	72-120	11	30
Hexachlorocyclopentadiene	< 500	1650.17	2007.27	1663.34	2141.36	122	129	64-137	6	30
Hexachloroethane	< 170	825.08	830.76	831.67	890.68	101	107	78-114	7	30
Indeno(1,2,3-cd)pyrene	< 17	825.08	837.11	831.67	909.38	101	109	81-118	8	30
Isophorone	< 33	825.08	820.95	831.67	881.66	99	106	77-118	7	30
2-Methylnaphthalene	< 17	825.08	772.16	831.67	851.48	94	102	83-109	10	30
2-Methylphenol	< 33	825.08	881.27	831.67	962.79	107	116	80-133	9	30
4-Methylphenol	< 33	825.08	848.16	831.67	912.56	103	110	73-125	7	30
Naphthalene	< 17	825.08	788.06	831.67	885.84	96	107	82-112	12	30
2-Nitroaniline	< 33	825.08	900.18	831.67	941.03	109	113	84-126	4	30
3-Nitroaniline	< 170	825.08	893.65	831.67	901.99	108	108	66-119	1	30
4-Nitroaniline	< 170	825.08	767.67	831.67	824.55	93	99	44-110	7	30
Nitrobenzene	< 33	825.08	846.9	831.67	926.98	103	111	70-122	9	30
2-Nitrophenol	< 33	825.08	903.8	831.67	1006.15	110	121*	83-120	11	30
4-Nitrophenol	< 500	825.08	825.8	831.67	865.28	100	104	52-133	5	30
N-Nitroso-di-n-propylamine	< 33	825.08	814.94	831.67	878.42	99	106	67-121	7	30
N-Nitrosodiphenylamine	< 33	825.08	866.27	831.67	938.54	105	113	83-118	8	30
Di-n-octylphthalate	< 170	825.08	986.22	831.67	1048.45	120	126	80-140	6	30
Pentachlorophenol	< 170	825.08	795.67	831.67	816.2	96	98	57-126	3	30
Phenanthrene	< 17	825.08	789	831.67	861.44	96	104	80-114	9	30
Phenol	< 33	825.08	788.08	831.67	841.76	96	101	73-122	7	30
Pyrene	3.83	825.08	842.4	831.67	916.95	102	110	81-114	8	30
2,4,5-Trichlorophenol	< 33	825.08	981.86	831.67	1029.51	119	124*	86-123	5	30
2,4,6-Trichlorophenol	< 33	825.08	926.01	831.67	986.32	112	119	81-123	6	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16058WAM026	Sample number(s): 8260051 UNSPK: P262042									
Acenaphthene	< 0.5	54.11	50.27	51.23	49.12	93	96	69-123	2	30
Acenaphthylene	< 0.5	54.11	49.97	51.23	49.02	92	96	67-125	2	30
Acetophenone	< 1	54.11	51.96	51.23	49.28	96	96	61-124	5	30
Anthracene	< 0.5	54.11	52.12	51.23	48.99	96	96	68-126	6	30
Atrazine	< 5	54.11	52.71	51.23	50.54	97	99	62-140	4	30
Benzaldehyde	< 5	54.11	11.3	51.23	9.73	21	19	10-123	15	30
Benzo(a)anthracene	< 0.5	54.11	50.24	51.23	42.27	93	83	69-133	17	30
Benzo(a)pyrene	0.140	54.11	51.41	51.23	43.47	95	85	68-126	17	30
Benzo(b)fluoranthene	< 0.5	54.11	52.73	51.23	43.51	97	85	71-131	19	30
Benzo(g,h,i)perylene	< 0.5	54.11	57.38	51.23	48.1	106	94	62-132	18	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Benzo(k)fluoranthene	< 0.5	54.11	51.21	51.23	43.33	95	85	72-128	17	30
1,1'-Biphenyl	< 1	54.11	47.94	51.23	46.65	89	91	59-124	3	30
4-Bromophenyl-phenylether	< 1	54.11	51.25	51.23	48.71	95	95	64-129	5	30
Butylbenzylphthalate	< 5	54.11	42.02	51.23	34.8	78	68	56-124	19	30
Di-n-butylphthalate	< 5	54.11	48.32	51.23	43.21	89	84	61-125	11	30
Caprolactam	< 16	54.11	17.64	51.23	16.2	33	32	11-51	8	30
Carbazole	< 1	54.11	51.13	51.23	49.36	94	96	64-126	4	30
4-Chloro-3-methylphenol	< 1	54.11	55.32	51.23	54.22	102	106	65-125	2	30
4-Chloroaniline	< 4	54.11	44.82	51.23	40.32	83	79	45-115	11	30
bis(2-Chloroethoxy)methane	< 1	54.11	51.57	51.23	51.13	95	100	67-124	1	30
bis(2-Chloroethyl)ether	37.83	54.11	50.06	51.23	72.61	23*	68	65-120	37*	30
2-Chloronaphthalene	< 1	54.11	51.95	51.23	51.57	96	101	57-126	1	30
2-Chlorophenol	< 1	54.11	48.78	51.23	47.19	90	92	59-120	3	30
4-Chlorophenyl-phenylether	< 1	54.11	53.03	51.23	49.61	98	97	67-125	7	30
2,2'-oxybis(1-Chloropropane)	< 1	54.11	59.26	51.23	56.18	110	110	56-128	5	30
Chrysene	< 0.5	54.11	50.46	51.23	42.22	93	82	71-136	18	30
Dibenz(a,h)anthracene	< 0.5	54.11	57.31	51.23	48.75	106	95	64-133	16	30
Dibenzofuran	< 1	54.11	50.95	51.23	47.54	94	93	67-120	7	30
3,3'-Dichlorobenzidine	< 5	54.11	47.26	51.23	38.8	87	76	39-118	20	30
2,4-Dichlorophenol	< 1	54.11	54.46	51.23	54.54	101	106	66-126	0	30
Diethylphthalate	< 5	54.11	40.2	51.23	38.44	74	75	55-124	4	30
2,4-Dimethylphenol	< 1	54.11	52.18	51.23	52.72	96	103	63-117	1	30
Dimethylphthalate	< 5	54.11	26.27	51.23	23.06	49	45	26-133	13	30
4,6-Dinitro-2-methylphenol	< 16	54.11	56.22	51.23	46.42	104	91	64-124	19	30
2,4-Dinitrophenol	< 32	108.23	103.23	102.46	75.01	95	73	42-129	32*	30
2,4-Dinitrotoluene	< 5	54.11	52.28	51.23	51.81	97	101	71-131	1	30
2,6-Dinitrotoluene	< 1	54.11	55.38	51.23	54.02	102	105	71-133	2	30
bis(2-Ethylhexyl)phthalate	< 5	54.11	51.81	51.23	41.57	96	81	66-130	22	30
Fluoranthene	< 0.5	54.11	54.42	51.23	47.52	101	93	68-129	14	30
Fluorene	< 0.5	54.11	52.27	51.23	50.07	97	98	71-127	4	30
Hexachlorobenzene	< 0.5	54.11	50.28	51.23	45.78	93	89	64-128	9	30
Hexachlorobutadiene	< 1	54.11	46.73	51.23	46.7	86	91	23-129	0	30
Hexachlorocyclopentadiene	< 16	108.23	27.81	102.46	53.13	26	52	10-101	63*	30
Hexachloroethane	< 5	54.11	43.21	51.23	43.21	80	84	23-121	0	30
Indeno(1,2,3-cd)pyrene	< 0.5	54.11	55.4	51.23	46.02	102	90	62-128	18	30
Isophorone	< 1	54.11	57.04	51.23	55.3	105	108	68-125	3	30
2-Methylnaphthalene	< 0.5	54.11	48.31	51.23	46.92	89	92	61-117	3	30
2-Methylphenol	< 1	54.11	50.54	51.23	46.92	93	92	54-122	7	30
4-Methylphenol	< 1	54.11	46.75	51.23	41.52	86	81	44-114	12	30
Naphthalene	< 0.5	54.11	51.38	51.23	50.05	95	98	62-121	3	30
2-Nitroaniline	< 1	54.11	52.07	51.23	51.1	96	100	68-130	2	30
3-Nitroaniline	< 1	54.11	47.53	51.23	42.68	88	83	58-122	11	30
4-Nitroaniline	< 1	54.11	47.76	51.23	44.66	88	87	61-111	7	30
Nitrobenzene	0.729	54.11	56.44	51.23	54.8	103	106	70-121	3	30
2-Nitrophenol	< 1	54.11	54.59	51.23	53.55	101	105	67-131	2	30
4-Nitrophenol	< 32	54.11	39.44	51.23	32.43	73	63	11-88	20	30
N-Nitroso-di-n-propylamine	< 1	54.11	52.05	51.23	49.02	96	96	63-121	6	30
N-Nitrosodiphenylamine	< 1	54.11	52.36	51.23	50.03	97	98	65-125	5	30
Di-n-octylphthalate	< 5	54.11	54.58	51.23	45.45	101	89	73-131	18	30
Pentachlorophenol	< 5	54.11	51.78	51.23	43.6	96	85	53-133	17	30
Phenanthrene	< 0.5	54.11	51.12	51.23	47.06	94	92	65-120	8	30
Phenol	< 1	54.11	29.8	51.23	26.68	55	52	19-82	11	30
Pyrene	< 0.5	54.11	50.97	51.23	44.46	94	87	68-118	14	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4,5-Trichlorophenol	< 1	54.11	54.2	51.23	50.5	100	99	68-126	7	30
2,4,6-Trichlorophenol	< 1	54.11	55.7	51.23	52.51	103	103	71-130	6	30
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160620006A	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260046									
4-Amino-2,6-Dinitrotoluene	< 120	1960	1150.41	1930	748.38	59	39*	42-138	42	50
2-Amino-4,6-Dinitrotoluene	< 120	1960	1189.42	1930	738.56	61	38*	43-141	47	50
3,5-Dinitroaniline	< 120	1950	1187.85	1930	717.46	61	37*	47-141	49	50
1,3-Dinitrobenzene	< 120	1950	1310.12	1920	826.1	67	43*	54-140	45	50
2,4-Dinitrotoluene	< 120	1960	1297.06	1930	831.72	66	43*	52-137	44	50
2,6-Dinitrotoluene	< 120	1960	1254.7	1930	839.47	64	43*	51-138	40	50
HMX	< 290	1960	1189.78	1930	693.42	61	36	29-148	53*	50
Nitrobenzene	< 290	1950	1494.23	1920	1032.9	77	54*	64-138	37	50
Nitroglycerin	< 2,300	21600	12366.9	21300	7469.4	57	35*	45-137	49	50
2-Nitrotoluene	< 120	1960	1281.88	1930	862.96	65	45*	57-135	39	50
3-Nitrotoluene	< 120	1960	1288.21	1930	843.66	66	44*	57-135	42	50
4-Nitrotoluene	< 120	1950	1211.34	1930	749.9	62	39*	53-133	47	50
PETN	< 2,300	21500	12062.23	21200	7174.85	56	34*	36-143	51*	50
RDX	< 120	1950	1291.46	1920	771.21	66	40*	45-145	50	50
Tetryl	< 290	1950	993.98	1920	562.24	51	29*	38-152	55*	50
1,3,5-Trinitrobenzene	< 120	1960	1238.72	1930	1059.46	63	55	48-141	16	50
2,4,6-Trinitrotoluene	< 120	1950	1074.84	1930	699.01	55	36*	47-140	42	50
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160610007A	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260037									
PCB-1016	< 170	166	776.14	167	1186.11	468*	710*	76-121	42	50
PCB-1260	< 170	166	323.25	168	341.42	195*	203*	79-130	5	50
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160630031A	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260040									
Ethylene glycol	< 10	104	84.91	104	92.51	82	89	76-122	9	20
	mg/l	**mg/l**	**mg/l**	**mg/l**	**mg/l**					
Batch number: 160680025A	Sample number(s): 8260051 UNSPK: 8260051									
Ethylene glycol	< 10	104	105.47	104	92.11	101	89	54-129	14	20
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160610637001	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260040									
Aluminum	12616.59	196.08	12269.46	196.08	13659.2	-177 (2)	532 (2)	75-125	11	20
Barium	175.38	196.08	344.38	196.08	359.44	86	94	75-125	4	20
Calcium	34336.77	392.16	32061.6	392.16	31223.26	-580 (2)	-794 (2)	75-125	3	20
Cobalt	6.47	49.02	52.02	49.02	57.68	93	104	75-125	10	20
Copper	497.34	24.51	638.02	24.51	306.67	574 (2)	-778 (2)	75-125	70*	20
Iron	43896.1	98.04	45467.01	98.04	50273.82	1602 (2)	6505 (2)	75-125	10	20
Lead	249.75	14.71	288.95	14.71	283.39	267 (2)	229 (2)	75-125	2	20
Magnesium	4813.74	196.08	5763	196.08	4262.3	484 (2)	-281 (2)	75-125	30*	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Manganese	468.92	49.02	474.91	49.02	567.54	12 (2)	201 (2)	75-125	18	20
Nickel	49.75	49.02	109.22	49.02	429.36	121	774*	75-125	119*	20
Potassium	1702.38	980.39	2493.62	980.39	2385.87	81	70*	75-125	4	20
Sodium	211.84	980.39	1189.87	980.39	1217.16	100	103	75-125	2	20
Titanium	761.31	98.04	780.2	98.04	785.42	19 (2)	25 (2)	75-125	1	20
Vanadium	27.78	49.02	76.12	49.02	91.92	99	131*	75-125	19	20
Zinc	582.33	49.02	757	49.02	665.05	356 (2)	169 (2)	75-125	13	20
Batch number: 160610637001A	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260040									
Antimony	5.32	1.18	6.41	1.18	5.74	93 (2)	36 (2)	75-125	11	20
Arsenic	6.33	1.96	8.56	1.96	7.76	114	73*	75-125	10	20
Beryllium	0.519	0.784	1.25	0.784	1.33	93	104	75-125	7	20
Cadmium	1.74	0.980	3.33	0.980	2.58	162*	86	75-125	25*	20
Chromium	127.52	9.80	179.46	9.80	126.97	530 (2)	-6 (2)	75-125	34*	20
Silver	0.373	9.80	9.80	9.80	9.94	96	98	75-125	1	20
Thallium	0.144	0.392	0.461	0.392	0.573	81	109	75-125	22*	20
Batch number: 160610637001B	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260040									
Selenium	0.286	1.96	2.16	1.96	2.20	95	98	75-125	2	20
Batch number: 160610638001	Sample number(s): 8260037-8260042,8260044-8260050 UNSPK: 8260045									
Mercury	< 0.196	0.163	0.149	0.165	0.148	91	90	80-120	1	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 160615713004	Sample number(s): 8260051 UNSPK: 8260051									
Mercury	< 0.00020	0.00100	0.000760	0.00100	0.000799	76*	80	80-120	5	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 160610637001	Sample number(s): 8260037-8260042,8260044-8260050 BKG: 8260040			
Aluminum	12616.59	13180.35	4	20
Barium	175.38	164.84	6	20
Calcium	34336.77	31097.15	10	20
Cobalt	6.47	8.31	25*	20
Copper	497.34	9419.63	180*	20
Iron	43896.1	47430.72	8	20
Lead	249.75	257.23	3	20
Magnesium	4813.74	4928.67	2	20
Manganese	468.92	574.69	20	20
Nickel	49.75	61.39	21*	20
Potassium	1702.38	1551.24	9	20
Sodium	211.84	195.26	8 (1)	20
Titanium	761.31	641.62	17	20
Vanadium	27.78	26.73	4	20
Zinc	582.33	617.38	6	20
Batch number: 160610637001A	Sample number(s): 8260037-8260042,8260044-8260050 BKG: 8260040			
Antimony	5.32	5.78	8	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635142
Reported: 03/21/2016 16:25

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Arsenic	6.33	6.15	3	20
Beryllium	0.519	0.521	0 (1)	20
Cadmium	1.74	1.95	11	20
Chromium	127.52	124.74	2	20
Silver	0.373	0.354	5 (1)	20
Thallium	0.144	0.158	10 (1)	20
Batch number: 160610637001B	Sample number(s): 8260037-8260042,8260044-8260050 BKG: 8260040			
Selenium	0.286	0.383	29* (1)	20
Batch number: 160610638001	Sample number(s): 8260037-8260042,8260044-8260050 BKG: 8260045			
Mercury	< 0.196	< 0.191	0 (1)	20
	mg/l	mg/l		
Batch number: 160615713004	Sample number(s): 8260051 BKG: 8260051			
Mercury	< 0.00020	< 0.00020	0 (1)	20
	%	%		
Batch number: 16077820011A	Sample number(s): 8260037-8260042,8260044-8260050 BKG: 8260044			
Moisture	17.26	17.18	0	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Soil Master
Batch number: A160593AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260038	109	110	95	93
8260039	108	109	96	93
8260043	106	106	97	94
Blank	105	106	98	94
LCS	103	104	100	100
LCSD	102	104	100	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160612AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260037	114	111	97	98
8260041	114	113	98	99
8260042	115	110	97	93
8260044	117	116	96	93
8260045	117	112	96	95
8260048	116	110	97	94
8260049	119	114	97	95
8260050	114	107	101	89
Blank	112	106	96	93
LCS	107	102	99	101
LCSD	106	102	99	100

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160642AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260046	118	114	98	87
Blank	116	107	97	94
LCS	111	107	101	104
LCSD	110	104	100	103
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160621AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260047	80	83	77	71
Blank	107	106	106	97
LCS	103	101	102	103
LCSD	122	120	123	133*
MS	80	78	77	72
MSD	91	86	89	84
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160633AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260040	74	75	68	64
Blank	112	111	105	95
LCS	115	111	108	101
LCSD	111	111	103	99
MS	75	76	73	73
MSD	76	76	70	72
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260C
Batch number: Y160603AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260051	103	107	98	92
Blank	101	107	99	92
LCS	98	103	101	99
LCSD	97	102	101	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: SVOAs by 8270D in Water
Batch number: 16058WAM026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260051	43	63	91	99	92	88
Blank	47	66	92	98	91	90
LCS	52	70	96	103	91	61
MS	54	71	95	101	91	87

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
MSD	48	66	95	103	92	59
Limits:	10-85	10-103	22-150	46-128	61-112	41-125

Analysis Name: SVOA 8270D (microwave)
Batch number: 16062SLI026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260037	101	103	79	91	108	100
8260038	92	94	83	93	97	92
8260039	98	100	102	92	102	97
8260040	90	58	42	10*	103	98
8260041	92	94	78	95	101	86
8260042	90	93	82	97	104	93
8260044	88	93	84	92	99	91
8260045	96	98	88	94	101	93
8260046	88	91	74	100	106	102
8260047	93	94	87	89	111	97
8260048	87	89	81	88	97	86
8260049	92	96	86	92	102	93
8260050	86	81	67	102	96	96
Blank	97	100	99	97	103	98
LCS	101	104	100	100	103	97
MS	92	92	94	91	96	93
MSD	94	96	95	97	98	93
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: Nitroaromatics/Amines 8330B(w)
Batch number: 160580020A

	3,4-Dinitrotoluene
8260051	93
Blank	93
LCS	86
LCSD	99
Limits:	50-150

Analysis Name: PCBs in Water by 8082A
Batch number: 160610002A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260051	83	45
Blank	93	58
LCS	92	31*
LCSD	88	26*
Limits:	33-137	36-153

Analysis Name: PCBs 8082A
Batch number: 160610007A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260037	97	188*
8260038	104	103
8260039	101	107

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260040	94	83
8260041	82	100
8260042	98	94
8260044	99	105
8260045	106	108
8260046	104	88
8260047	114	127
8260048	103	107
8260049	102	110
8260050	95	97
Blank	110	104
LCS	106	110
MS	96	91
MSD	101	90
Limits:	53-140	45-143

Analysis Name: Nitroaromatics/Amines 8330B(s)
Batch number: 160620006A

	3,4-Dinitrotoluene
8260037	115
8260038	109
8260039	105
8260040	76
8260041	96
8260042	91
8260044	90
8260045	104
8260046	92
8260047	98
8260048	97
8260049	106
8260050	106
Blank	105
LCS	100
LCSD	100
MS	96
MSD	89
Limits:	62-133

Analysis Name: Glycols in Soil
Batch number: 160630031A

	Tetramethylene glycol
8260037	72
8260038	69
8260039	73
8260040	79
8260041	84
8260042	82
8260044	79
8260045	80
8260046	75
8260047	81

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/21/2016 16:25

Group Number: 1635142

	Tetramethylene glycol
8260048	73
8260049	78
8260050	75
Blank	77
LCS	107
MS	99
MSD	100
Limits:	52-115

Analysis Name: Glycols in Water
Batch number: 160680025A

	Tetramethylene glycol
8260051	45*
Blank	79
LCS	104
MS	37*
MSD	30*
Limits:	54-136

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635142 Sample # 8260037-51

COC # 491589

Client Information

Client: 10302 Norfolk Southern via Amec Foster Wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard / Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☑ No ☐

Matrix: Sediment ☐ Soil ☒ Water: Ground ☐ Potable ☐ NPDES ☐ Surface ☐ Other:

Analysis Requested

Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs 8260C Kit (0)	Metals, Moisture, 3546, 5VOA (None)	Nitroaromatics/Moisture, Amines 8330B (None)	VOCs 8260C (trip blank) (0)							
SBO-10-0-2-022316	2-23-16	10:45	VOC	✓	✓			6	✓	✓	✓	2-23-16							
SBO-10-6-8-022316	2-23-16	11:30	VOC	✓	✓			6	✓	✓	✓								
SBO-10-12-14-022316	2-23-16	11:50	VOC	✓	✓			6	✓	✓	✓								
MW-4-0-2-022316	2-23-16	12:15	VOC	✓	✓			6	✓	✓	✓								
MW-4-2-4-022316	2-23-16	12:30	VOC	✓	✓			6	✓	✓	✓								
MW-4-12-14-022316	2-23-16	14:50	VOC	✓	✓			6	✓	✓	✓								
TB-022315	2-23-16	16:00	✓		✓	✓		1				✓							
SBO-08-6-8-022316	2-23-16	1530	✓		✓			6	✓	✓	✓								
SBO-08-12-14-022316	2-23-16	1545	✓		✓			6	✓	✓	✓								
SBO-08-0-2-022316	2-23-16	1515	✓		✓			6	✓	✓	✓								

For Lab Use Only

FSC:

SCR#: 184510

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

VOCs in cooler C10084 + (1/3) TB-022316 Soil Balance of Samples in C22940 (2/3)

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Karen L. Guito	2-17-16	1500			
[signature]	2/23/16	1930			
			[signature]	2/24/16	1000

EDD Required? Yes No

If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 0-4-2.7 °C

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7044 1115

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10302 Group # 1635142 Sample # 8260037-51

COC # 491591

Client Information

Client: 10302 Norfolk Southern via Amec Foster Wheeler	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: John Jolly	P.O. #:
Sampler: Tanya Kinnard / Terrell Parker	Quote #:
State where samples were collected: GA	For Compliance: Yes ☑ No ☐

Matrix: Sediment ☐ Soil ☒ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ____

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Soil	Water	Other	Total # of Containers	VOCs 8260C Kit (O)	Metals, Moisture, PCBs 8082A/3546, SVOA 8270D (None)	Nitroaromatics/Moisture, Amines 8330B (None)	VOCs 8260C (trip blank) (O)	Metals (N)	PCBs 8082A (None)	SVOAs 8270D	Nitroaromatics/Amines 8330B (None)			Remarks
SBO-07-0-2-022316	2/23/16	1630	✓			✓			6	✓	✓	✓								
SBO-07-6-8-022316		1645	✓			✓			6	✓	✓	✓								
SBO-07-12-14-022316		1700	✓			✓			6	✓	✓	✓								
SS-15-02-022316		1500	✓			✓			6	✓	✓	✓								
EQUIP. BIK-022316		1750	✓				✓		10				✓	✓	✓		✓			

For Lab Use Only
FSC: ____
SCR#: ____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks
Cooler C29184 has Equipment Blank Only (3/3)

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: ____

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	2/23/16	1930			
			[signature]	2/24/16	1000

EDD Required? Yes No
If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx ✓ Other ____

Temperature upon receipt 0.4 / 2.7 °C

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 1115

Wendy Kozma

1635142

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Friday, February 26, 2016 6:37 PM
To: Wendy Kozma
Cc: Kinnard, Tanya R; Jolly, John
Subject: FW: Acknowledgement(1635142, Former Cohn Property/Columbus, GA, 02/24/2016 10:00:00)

Wendy,

8260044 SBO-08-6-7-022316 Grab Soil SBO-08-6-8-022316

Please correct the above sample number.

Judith A. Hartness
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judy.hartness@amecfw.com amecfw.com

From: LLAutomatedReportingSystem@eurofins.com [mailto:LLAutomatedReportingSystem@eurofins.com]
Sent: Friday, February 26, 2016 5:59 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Cc: WendyKozma@eurofinsUS.com
Subject: Acknowledgement(1635142, Former Cohn Property/Columbus, GA, 02/24/2016 10:00:00)

<< File: EAcknow_1635142.xls >>

amec
foster
wheeler

1635142

Katherine Klinefelter

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Wednesday, February 24, 2016 3:20 PM
To: Katherine Klinefelter; Jenifer Lewis
Cc: Barker, Michelle; Mayila, Ferdinand K; Jolly, John; Kinnard, Tanya R; Parker, Terrell
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF
Attachments: ARF-Eurofins-NS Columbus GA-021616r2.xlsx; COC_01-NS Columbus, GA_022316 amended.pdf; COC_02-NS Columbus, GA_022316 amended.pdf

Here is the revised ARF and the amended COCs for samples collected 2-23-16.

PS. Can you send another case of the smaller soil jars? We used them somewhere we shouldn't have.

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judy.hartness@amecfw.com amecfw.com

From: Katherine Klinefelter [mailto:KatherineKlinefelter@eurofinsus.com]
Sent: Wednesday, February 24, 2016 1:41 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Jenifer Lewis <JeniferLewis@eurofinsUS.com>
Cc: Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>; Jolly, John <john.jolly@amec.com>; Kinnard, Tanya R <Tanya.Kinnard@amec.com>; Parker, Terrell <Terrell.Parker@amec.com>
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF

Please submit revised ARF and amended COCs.

From: Katherine Klinefelter
Sent: Wednesday, February 24, 2016 1:40 PM
To: 'Hartness, Judy A'; Jenifer Lewis
Cc: Barker, Michelle; Mayila, Ferdinand K; Jolly, John; Kinnard, Tanya R; Parker, Terrell
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF

We should be able to use soil from bottles submitted.

From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Wednesday, February 24, 2016 12:35 PM
To: Katherine Klinefelter; Jenifer Lewis
Cc: Barker, Michelle; Mayila, Ferdinand K; Jolly, John; Kinnard, Tanya R; Parker, Terrell
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF

Yes. Can you use sample for this test out of bottles received for samples we collected so far? Do we need to add bottles for the remaining samples?

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judy.hartness@amecfw.com amecfw.com

1635142

From: Katherine Klinefelter [mailto:KatherineKlinefelter@eurofinsus.com]
Sent: Wednesday, February 24, 2016 12:33 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Jenifer Lewis <JeniferLewis@eurofinsUS.com>
Cc: Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>; Jolly, John <john.jolly@amec.com>
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF

Contract pricing is in place for Norfolk Southern for Glycols by 8015B for water and soil. Will method 8015B work?

From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Wednesday, February 24, 2016 10:53 AM
To: Katherine Klinefelter; Jenifer Lewis
Cc: Barker, Michelle; Mayila, Ferdinand K; Jolly, John
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF
Importance: High

Kathy,

Can you add ethylene glycol by SW8015 to the NS Columbus, GA soil samples?

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judy.hartness@amecfw.com amecfw.com

From: Katherine Klinefelter [mailto:KatherineKlinefelter@eurofinsus.com]
Sent: Wednesday, February 17, 2016 4:07 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Jenifer Lewis <JeniferLewis@eurofinsUS.com>
Cc: Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>; Jolly, John <john.jolly@amec.com>
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF

Thanks Judy!

Kathy
717-556-7256

From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Wednesday, February 17, 2016 4:03 PM
To: Jenifer Lewis; Katherine Klinefelter
Cc: Barker, Michelle; Mayila, Ferdinand K; Jolly, John
Subject: RE: Norfolk Southern - Columbus, GA - Former Cohn Property ARF

Per our conversation, I have modified the ARF to reflect the changes you requested:

- I changed the mercury method for soil to 7471B and added the mercury in water method 7470A
- Corrected thallium to "Tl".
- Added (7) to the PCB note to indicate we want the 7 standard Aroclors reported
- I took John Jolly off the distribution list for analytical reports

Here is the revised ARF.

1635142

Also we discussed no reporting of "J" values and if there was any problem with the EQuIS EDD requiring an MDL when we were reporting to the RL only.
Michelle said you will get an error warning, but you can leave the field blank or add 0's or any value. It should not affect the hardcopy report.

Just a head's up, we plan on follow-on drilling for March 22. I will try to get you a ARF and bottle order request in advance so you do not have to use rush delivery.

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judy.hartness@amecfw.com amecfw.com

From: Hartness, Judy A
Sent: Tuesday, February 16, 2016 7:34 PM
To: 'Jenifer Lewis' <JeniferLewis@eurofinsUS.com>; 'KathyKlinefelter@eurofinsUS.com' <KathyKlinefelter@eurofinsUS.com>
Cc: Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>; Jolly, John <john.jolly@amec.com>
Subject: Norfolk Southern - Columbus, GA - Former Cohn Property ARF
Importance: High

Jennifer/Kathy,
Here is the ARF for the Norfolk Southern - Columbus, GA - Former Cohn Property. Please call/email with questions and or corrections.

- We need the following metals by 6020A in soil:
  Sb
  As
  Be
  Cd
  Cr
  Se
  Ag
  Th
- 10-day TAT
- We DO NOT NEED the puck mil grinding in the 8330B prep.
- We will not be reporting "J" values
- Please send bulk DI water
- Will use TerraCore kits w/sodium bisulfate for low-level and methanol for high-level
- Soil Trip Blanks are to be vials w/sodinum bisulfate
- Will report std PCB list wo "Total PCBs" results
- Will report 4.3 TCL lists for VOC and SVOCs
- Soil results reported on a dry weight basis
- Need NS Level 2 data package
- Amec Foster Wheeler EQuIS EDD format and valid values to follow (Michelle Barker will send)
- Need bottle kits with coolers and chain-of-custodies by **Thursday Feb. 18th**

Regards,

Judith A. Hartness
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1635142

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judy.hartness@amecfw.com amecfw.com

From: Smith, Laura M
Sent: Tuesday, February 16, 2016 3:29 PM
To: Foley, Steve R <Steve.Foley@amec.com>; Hartness, Judy A <Judy.Hartness@amec.com>; Barker, Michelle <Michelle.Barker@amec.com>
Subject: Metals Type 1 through 4 HSRA Calculations-February 2016.xlsx

HSRA values for metals

amec foster wheeler

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Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635142 Sample # 8246037-51

COC # [illegible]

Client Information

Client: 10 Rec Norfolk Southern
via Amec Foster Wheeler

Project Name: Former Cohn Property

Project Manager: John Jelley

Sampler: Tanya Kinnard / Terrell Parker

State: GA

Sample Identification

Sample Identification	Date Collected	Time Collected	Total # of Containers
SBO-10-0-2-022316	2-23-16	10:45	6
SBO-10-6-8-022316	2-23-16	11:30	6
SBO-10-12-14-022316	2-23-16	11:50	6
MW-4-0-2-022316	2-23-16	12:15	6
MW-4-2-4-022316	2-23-16	12:30	6
MW-4-12-14-022316	2-23-16	14:50	6
TB-022315	2-23-16	16:00	1
SBO-08-6-8-022316	2-23-16	15:30	6
SBO-08-12-14-022316	2-23-16	15:45	6
SBO-08-0-2-022316	2-23-16	15:15	6

Turnaround Time (TAT) Requested: Standard

E-mail address: tanya.kinnard@amecfw.com

Data Package Options: Type I (EPA Level 3 Equivalent/non-CLP)

Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by: [illegible] Date: 2/23/16 Time: 1920

Relinquished by: [illegible] Date: 2/23/16 Time: 1930

EDD Required? Yes

If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes

Relinquished by Commercial Carrier: FedEx ✓

Temperature upon receipt

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

Environmental Analysis Request/Chain of Custody

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COC # [illegible]

Client Information

Client: Norfolk Southern

Project: Former Cason Property

Sampler: John Jolly

State: GA

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers
SBO-07-2-2-022316	2/23/16	1630	✓		✓			6
SBO-07-[illegible]-022316		1645	✓		✓			6
SBO-07-12-[illegible]-022316		1700	✓		✓			6
SS-15-02-022316		1520	✓		✓			6
EQUIP BLK-022316		1750	✓			✓		10

Remarks: [illegible] (3/3)

Turnaround Time (TAT) Requested: Standard

Data Package Options

Page 133 of 135

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Sample Administration Receipt Documentation Log

Doc Log ID: 137304

Group Number(s): 1635742

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	02/24/2016 10:00
Number of Packages:	3	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	1
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): sodium bisulfate

Unpacked by Krista Abel (3058) at 11:10 on 02/24/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.4	DT	Wet	Y	Bagged	N
2	DT146	2.3	DT	Wet	Y	Bagged	N
3	DT146	2.7	DT	Wet	Y	Bagged	N

2425 New Holland Pike
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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: March 18, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 02/25/2016
Group Number: 1635185
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
SS-13-0-2-022416 Grab Soil	8260165
SS-DUP-01-022416 Grab Soil	8260166
SS-11-0-2-022416 Grab Soil	8260167
SS-12-0-2-022416 Grab Soil	8260168
SS-09-0-2-022416 Grab Soil	8260169
SS-10-0-2-022416 Grab Soil	8260170
SS-08-0-2-022416 Grab Soil	8260171
MW-3-6-8-022416 Grab Soil	8260172
MW-3-2-4-022416 Grab Soil	8260173
MW-3-12-14-022416 Grab Soil	8260174
MW-3-0-2-022416 Grab Soil	8260175
Trip_Blank-022416 Sodium Bisulfate	8260176
SS-07-0-2-022416 Grab Soil	8260177

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Ferdinand Mayila
Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1635185

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8260166, 8260168, 8260174, 8260175, 8260176

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample #s: 8260172

Reporting limits were raised due to interference from the sample matrix.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8260169, 8260171

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: tetrachloroethene.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample #s: 8260167, 8260170

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: trichloroethene and tetrachloroethene.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Batch #: R160621AA (Sample number(s): 8260166, 8260168, 8260172 UNSPK: P260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCSD

SW-846 8270D, GC/MS Semivolatiles

Sample #s: 8260165, 8260166, 8260168, 8260173, 8260175

Reporting limits were raised due to interference from the sample matrix.

Batch #: 16062SLI026 (Sample number(s): 8260165-8260171 UNSPK: P260039)

The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: Hexachlorobutadiene

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2-Nitrophenol, 2,4,5-Trichlorophenol

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 2-Chloronaphthalene

Batch #: 16064SLB026 (Sample number(s): 8260172, 8260174 UNSPK: P260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2,4-Dimethylphenol

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Sample #s: 8260165, 8260169, 8260170

Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.

Batch #: 160610026A (Sample number(s): 8260165-8260175, 8260177 UNSPK: P260957)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8260172, 8260173

SW-846 8330B Rev.2 Oct. 2006, Explosives

Batch #: 160620006A (Sample number(s): 8260172-8260175 UNSPK: P260046)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: RDX, Nitrobenzene, 3,5-Dinitroaniline, 1,3-Dinitrobenzene, 2-Nitrotoluene, 4-Nitrotoluene, 4-Amino-2,6-Dinitrotoluene, 3-Nitrotoluene, 2-Amino-4,6-Dinitrotoluene, 2,6-Dinitrotoluene, 2,4-Dinitrotoluene, Tetryl, 2,4,6-Trinitrotoluene, Nitroglycerin, PETN

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Tetryl, HMX, PETN

SW-846 8015B, GC Miscellaneous

Batch #: 160630032A (Sample number(s): 8260165-8260175, 8260177 UNSPK: 8260168)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCS

SW-846 6010C, Metals

Batch #: 160610637001 (Sample number(s): 8260165-8260171 UNSPK: P260040 BKG: P260040)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Magnesium, Potassium, Copper, Lead, Manganese, Nickel, Titanium, Vanadium, Zinc

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Magnesium, Copper, Nickel

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Cobalt, Copper, Nickel

Batch #: 160610637002 (Sample number(s): 8260172-8260175, 8260177 UNSPK: P260957 BKG: P260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Magnesium, Potassium, Lead, Manganese, Titanium, Zinc, Barium, Copper

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Calcium, Manganese, Zinc

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Aluminum, Barium, Manganese

SW-846 6020A, Metals

Sample #s: 8260175

Reporting limits were raised for metals due to interference from the sample matrix.

Batch #: 160610637001A (Sample number(s): 8260165-8260171 UNSPK: P260040 BKG: P260040)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Arsenic, Chromium, Cadmium

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Cadmium, Chromium, Thallium

Batch #: 160610637001B (Sample number(s): 8260165-8260171 UNSPK: P260040 BKG: P260040)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Selenium

Batch #: 160610637002A (Sample number(s): 8260172-8260175, 8260177 UNSPK: P260957 BKG: P260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Arsenic, Beryllium, Chromium

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Antimony, Arsenic

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Cadmium, Thallium

SM 2540 G-1997, Wet Chemistry

Batch #: 16077820012A (Sample number(s): 8260172-8260175 BKG: P260969)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture

Sample Description: SS-13-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260165
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1302

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 1,400	1,400	480	58.89
11995	Benzene	71-43-2	< 340	340	34	58.89
11995	Bromodichloromethane	75-27-4	< 340	340	69	58.89
11995	Bromoform	75-25-2	< 340	340	69	58.89
11995	Bromomethane	74-83-9	< 340	340	140	58.89
11995	2-Butanone	78-93-3	< 690	690	280	58.89
11995	Carbon Disulfide	75-15-0	< 340	340	69	58.89
11995	Carbon Tetrachloride	56-23-5	< 340	340	69	58.89
11995	Chlorobenzene	108-90-7	< 340	340	69	58.89
11995	Chloroethane	75-00-3	< 340	340	140	58.89
11995	Chloroform	67-66-3	< 340	340	69	58.89
11995	Chloromethane	74-87-3	< 340	340	140	58.89
11995	Cyclohexane	110-82-7	370	340	69	58.89
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 340	340	140	58.89
11995	Dibromochloromethane	124-48-1	< 340	340	69	58.89
11995	1,2-Dibromoethane	106-93-4	< 340	340	69	58.89
11995	1,2-Dichlorobenzene	95-50-1	< 340	340	69	58.89
11995	1,3-Dichlorobenzene	541-73-1	< 340	340	69	58.89
11995	1,4-Dichlorobenzene	106-46-7	< 340	340	69	58.89
11995	Dichlorodifluoromethane	75-71-8	< 340	340	140	58.89
11995	1,1-Dichloroethane	75-34-3	< 340	340	69	58.89
11995	1,2-Dichloroethane	107-06-2	< 340	340	69	58.89
11995	1,1-Dichloroethene	75-35-4	< 340	340	69	58.89
11995	cis-1,2-Dichloroethene	156-59-2	< 340	340	69	58.89
11995	trans-1,2-Dichloroethene	156-60-5	< 340	340	69	58.89
11995	1,2-Dichloropropane	78-87-5	< 340	340	69	58.89
11995	cis-1,3-Dichloropropene	10061-01-5	< 340	340	69	58.89
11995	trans-1,3-Dichloropropene	10061-02-6	< 340	340	69	58.89
11995	Ethylbenzene	100-41-4	< 340	340	69	58.89
11995	Freon 113	76-13-1	< 690	690	140	58.89
11995	2-Hexanone	591-78-6	< 690	690	210	58.89
11995	Isopropylbenzene	98-82-8	< 340	340	69	58.89
11995	Methyl Acetate	79-20-9	< 340	340	140	58.89
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 340	340	34	58.89
11995	4-Methyl-2-pentanone	108-10-1	< 690	690	210	58.89
11995	Methylcyclohexane	108-87-2	1,100	340	69	58.89
11995	Methylene Chloride	75-09-2	< 340	340	140	58.89
11995	Styrene	100-42-5	< 340	340	69	58.89
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 340	340	69	58.89
11995	Tetrachloroethene	127-18-4	< 340	340	69	58.89
11995	Toluene	108-88-3	1,200	340	69	58.89
11995	1,2,4-Trichlorobenzene	120-82-1	< 340	340	69	58.89
11995	1,1,1-Trichloroethane	71-55-6	< 340	340	69	58.89
11995	1,1,2-Trichloroethane	79-00-5	< 340	340	69	58.89
11995	Trichloroethene	79-01-6	< 340	340	69	58.89
11995	Trichlorofluoromethane	75-69-4	< 340	340	140	58.89
11995	Vinyl Chloride	75-01-4	< 340	340	69	58.89
11995	Xylene (Total)	1330-20-7	1,300	340	69	58.89
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 490	490	96	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-13-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260165
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1302

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	1,100	490	96	5
10726	Acetophenone	98-86-2	< 960	960	480	5
10726	Anthracene	120-12-7	1,000	490	96	5
10726	Atrazine	1912-24-9	< 4,800	4,800	960	5
10726	Benzaldehyde	100-52-7	< 4,800	4,800	1,900	5
10726	Benzo(a)anthracene	56-55-3	3,900	490	96	5
10726	Benzo(a)pyrene	50-32-8	5,700	490	96	5
10726	Benzo(b)fluoranthene	205-99-2	8,800	490	96	5
10726	Benzo(g,h,i)perylene	191-24-2	4,800	490	96	5
10726	Benzo(k)fluoranthene	207-08-9	3,700	490	96	5
10726	1,1'-Biphenyl	92-52-4	< 960	960	480	5
10726	4-Bromophenyl-phenylether	101-55-3	< 960	960	480	5
10726	Butylbenzylphthalate	85-68-7	< 4,800	4,800	1,900	5
10726	Di-n-butylphthalate	84-74-2	< 4,800	4,800	1,900	5
10726	Caprolactam	105-60-2	< 4,800	4,800	960	5
10726	Carbazole	86-74-8	< 960	960	480	5
10726	4-Chloro-3-methylphenol	59-50-7	< 960	960	480	5
10726	4-Chloroaniline	106-47-8	< 1,900	1,900	960	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 960	960	480	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 960	960	480	5
10726	2-Chloronaphthalene	91-58-7	< 950	950	190	5
10726	2-Chlorophenol	95-57-8	< 960	960	480	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 960	960	480	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 960	960	480	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	4,200	490	96	5
10726	Dibenz(a,h)anthracene	53-70-3	1,800	490	96	5
10726	Dibenzofuran	132-64-9	< 960	960	480	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 9,600	9,600	2,900	5
10726	2,4-Dichlorophenol	120-83-2	< 960	960	480	5
10726	Diethylphthalate	84-66-2	< 4,800	4,800	1,900	5
10726	2,4-Dimethylphenol	105-67-9	< 960	960	480	5
10726	Dimethylphthalate	131-11-3	< 4,800	4,800	1,900	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 14,000	14,000	4,800	5
10726	2,4-Dinitrophenol	51-28-5	< 29,000	29,000	8,600	5
10726	2,4-Dinitrotoluene	121-14-2	< 4,800	4,800	1,900	5
10726	2,6-Dinitrotoluene	606-20-2	< 960	960	480	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 4,900	4,900	1,900	5
10726	Fluoranthene	206-44-0	3,600	490	96	5
10726	Fluorene	86-73-7	< 490	490	96	5
10726	Hexachlorobenzene	118-74-1	< 490	490	96	5
10726	Hexachlorobutadiene	87-68-3	< 960	960	480	5
10726	Hexachlorocyclopentadiene	77-47-4	< 14,000	14,000	4,800	5
10726	Hexachloroethane	67-72-1	< 4,800	4,800	960	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	4,400	490	96	5
10726	Isophorone	78-59-1	< 960	960	480	5
10726	2-Methylnaphthalene	91-57-6	< 490	490	96	5
10726	2-Methylphenol	95-48-7	< 960	960	480	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-13-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260165
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1302

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 960	960	480	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 490	490	96	5
10726	2-Nitroaniline	88-74-4	< 960	960	480	5
10726	3-Nitroaniline	99-09-2	< 4,800	4,800	1,900	5
10726	4-Nitroaniline	100-01-6	< 4,800	4,800	1,900	5
10726	Nitrobenzene	98-95-3	< 960	960	480	5
10726	2-Nitrophenol	88-75-5	< 960	960	480	5
10726	4-Nitrophenol	100-02-7	< 14,000	14,000	4,800	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 960	960	480	5
10726	N-Nitrosodiphenylamine	86-30-6	< 960	960	480	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 4,800	4,800	1,900	5
10726	Pentachlorophenol	87-86-5	< 4,900	4,900	960	5
10726	Phenanthrene	85-01-8	650	490	96	5
10726	Phenol	108-95-2	< 960	960	480	5
10726	Pyrene	129-00-0	5,300	490	96	5
10726	2,4,5-Trichlorophenol	95-95-4	< 960	960	480	5
10726	2,4,6-Trichlorophenol	88-06-2	< 960	960	480	5
	Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 9,900	9,900	2,100	500
10885	PCB-1221	11104-28-2	< 9,900	9,900	2,700	500
10885	PCB-1232	11141-16-5	< 9,900	9,900	4,600	500
10885	PCB-1242	53469-21-9	< 9,900	9,900	1,900	500
10885	PCB-1248	12672-29-6	< 9,900	9,900	1,900	500
10885	PCB-1254	11097-69-1	< 9,900	9,900	1,900	500
10885	PCB-1260	11096-82-5	< 9,900	9,900	2,800	500
	Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.					
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	9,040	46.8	8.96	1
06946	Barium	7440-39-3	160	1.17	0.140	1
01650	Calcium	7440-70-2	5,480	46.8	3.89	1
06952	Cobalt	7440-48-4	11.2	1.17	0.0947	1
06953	Copper	7440-50-8	1,370	11.7	1.87	5
01654	Iron	7439-89-6	46,400	234	19.5	5
06955	Lead	7439-92-1	357	3.51	0.480	1
01657	Magnesium	7439-95-4	1,640	23.4	1.95	1
06958	Manganese	7439-96-5	696	1.17	0.140	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-13-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260165
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1302

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06961	Nickel	7440-02-0	215	2.34	0.269	1
01662	Potassium	7440-09-7	801	117	19.6	1
01667	Sodium	7440-23-5	< 234	234	19.5	1
06970	Titanium	7440-32-6	375	2.34	0.433	1
06971	Vanadium	7440-62-2	25.5	1.17	0.269	1
06972	Zinc	7440-66-6	571	4.68	0.901	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	5.05	0.468	0.0772	2
06125	Arsenic	7440-38-2	10.1	0.936	0.175	2
06127	Beryllium	7440-41-7	0.484	0.234	0.0166	2
06128	Cadmium	7440-43-9	4.19	0.234	0.0538	2
06131	Chromium	7440-47-3	483	4.68	0.585	10
06141	Selenium	7782-49-2	< 0.936	0.936	0.117	2
06142	Silver	7440-22-4	0.319	0.234	0.0234	2
06145	Thallium	7440-28-0	< 0.234	0.234	0.0351	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.669	0.227	0.0113	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160681AA	03/08/2016 19:58	Kevin A Sposito	58.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016 13:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016 13:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016 13:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016 04:40	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016 09:00	Benjamin J Rosenberger	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-13-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260165
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1302

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016 17:53	Jessica L Miller	500
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016 05:01	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016 12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016 15:24	Eric L Eby	5
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016 19:00	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016 17:25	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016 12:51	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016 12:51	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016 12:51	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016 12:51	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016 22:52	Tara L Snyder	10
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016 12:51	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/06/2016 22:50	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016 12:51	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016 10:41	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016 22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016 17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-DUP-01-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260166
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

DUP1-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,100	1,100	390	46.39
11995	Benzene	71-43-2	< 280	280	28	46.39
11995	Bromodichloromethane	75-27-4	< 280	280	55	46.39
11995	Bromoform	75-25-2	< 280	280	55	46.39
11995	Bromomethane	74-83-9	< 280	280	110	46.39
11995	2-Butanone	78-93-3	< 550	550	220	46.39
11995	Carbon Disulfide	75-15-0	< 280	280	55	46.39
11995	Carbon Tetrachloride	56-23-5	< 280	280	55	46.39
11995	Chlorobenzene	108-90-7	< 280	280	55	46.39
11995	Chloroethane	75-00-3	< 280	280	110	46.39
11995	Chloroform	67-66-3	< 280	280	55	46.39
11995	Chloromethane	74-87-3	< 280	280	110	46.39
11995	Cyclohexane	110-82-7	< 280	280	55	46.39
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 280	280	110	46.39
11995	Dibromochloromethane	124-48-1	< 280	280	55	46.39
11995	1,2-Dibromoethane	106-93-4	< 280	280	55	46.39
11995	1,2-Dichlorobenzene	95-50-1	< 280	280	55	46.39
11995	1,3-Dichlorobenzene	541-73-1	< 280	280	55	46.39
11995	1,4-Dichlorobenzene	106-46-7	< 280	280	55	46.39
11995	Dichlorodifluoromethane	75-71-8	< 280	280	110	46.39
11995	1,1-Dichloroethane	75-34-3	< 280	280	55	46.39
11995	1,2-Dichloroethane	107-06-2	< 280	280	55	46.39
11995	1,1-Dichloroethene	75-35-4	< 280	280	55	46.39
11995	cis-1,2-Dichloroethene	156-59-2	< 280	280	55	46.39
11995	trans-1,2-Dichloroethene	156-60-5	< 280	280	55	46.39
11995	1,2-Dichloropropane	78-87-5	< 280	280	55	46.39
11995	cis-1,3-Dichloropropene	10061-01-5	< 280	280	55	46.39
11995	trans-1,3-Dichloropropene	10061-02-6	< 280	280	55	46.39
11995	Ethylbenzene	100-41-4	< 280	280	55	46.39
11995	Freon 113	76-13-1	< 550	550	110	46.39
11995	2-Hexanone	591-78-6	< 550	550	170	46.39
11995	Isopropylbenzene	98-82-8	< 280	280	55	46.39
11995	Methyl Acetate	79-20-9	< 280	280	110	46.39
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 280	280	28	46.39
11995	4-Methyl-2-pentanone	108-10-1	< 550	550	170	46.39
11995	Methylcyclohexane	108-87-2	< 280	280	55	46.39
11995	Methylene Chloride	75-09-2	< 280	280	110	46.39
11995	Styrene	100-42-5	< 280	280	55	46.39
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 280	280	55	46.39
11995	Tetrachloroethene	127-18-4	3,000	280	55	46.39
11995	Toluene	108-88-3	< 280	280	55	46.39
11995	1,2,4-Trichlorobenzene	120-82-1	< 280	280	55	46.39
11995	1,1,1-Trichloroethane	71-55-6	< 280	280	55	46.39
11995	1,1,2-Trichloroethane	79-00-5	< 280	280	55	46.39
11995	Trichloroethene	79-01-6	< 280	280	55	46.39
11995	Trichlorofluoromethane	75-69-4	< 280	280	110	46.39
11995	Vinyl Chloride	75-01-4	< 280	280	55	46.39
11995	Xylene (Total)	1330-20-7	< 280	280	55	46.39

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: SS-DUP-01-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260166
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

DUP1-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
	Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 500	500	98	5
10726	Acenaphthylene	208-96-8	< 500	500	98	5
10726	Acetophenone	98-86-2	< 980	980	490	5
10726	Anthracene	120-12-7	< 500	500	98	5
10726	Atrazine	1912-24-9	< 4,900	4,900	980	5
10726	Benzaldehyde	100-52-7	< 4,900	4,900	2,000	5
10726	Benzo(a)anthracene	56-55-3	< 500	500	98	5
10726	Benzo(a)pyrene	50-32-8	< 500	500	98	5
10726	Benzo(b)fluoranthene	205-99-2	< 500	500	98	5
10726	Benzo(g,h,i)perylene	191-24-2	< 500	500	98	5
10726	Benzo(k)fluoranthene	207-08-9	< 500	500	98	5
10726	1,1'-Biphenyl	92-52-4	< 980	980	490	5
10726	4-Bromophenyl-phenylether	101-55-3	< 980	980	490	5
10726	Butylbenzylphthalate	85-68-7	< 4,900	4,900	2,000	5
10726	Di-n-butylphthalate	84-74-2	< 4,900	4,900	2,000	5
10726	Caprolactam	105-60-2	< 4,900	4,900	980	5
10726	Carbazole	86-74-8	< 980	980	490	5
10726	4-Chloro-3-methylphenol	59-50-7	< 980	980	490	5
10726	4-Chloroaniline	106-47-8	< 2,000	2,000	980	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 980	980	490	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 980	980	490	5
10726	2-Chloronaphthalene	91-58-7	< 970	970	200	5
10726	2-Chlorophenol	95-57-8	< 980	980	490	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 980	980	490	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 980	980	490	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 500	500	98	5
10726	Dibenz(a,h)anthracene	53-70-3	< 500	500	98	5
10726	Dibenzofuran	132-64-9	< 980	980	490	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 9,800	9,800	2,900	5
10726	2,4-Dichlorophenol	120-83-2	< 980	980	490	5
10726	Diethylphthalate	84-66-2	< 4,900	4,900	2,000	5
10726	2,4-Dimethylphenol	105-67-9	< 980	980	490	5
10726	Dimethylphthalate	131-11-3	< 4,900	4,900	2,000	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 15,000	15,000	4,900	5
10726	2,4-Dinitrophenol	51-28-5	< 29,000	29,000	8,800	5
10726	2,4-Dinitrotoluene	121-14-2	< 4,900	4,900	2,000	5
10726	2,6-Dinitrotoluene	606-20-2	< 980	980	490	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 5,000	5,000	2,000	5
10726	Fluoranthene	206-44-0	< 500	500	98	5
10726	Fluorene	86-73-7	< 500	500	98	5
10726	Hexachlorobenzene	118-74-1	< 500	500	98	5
10726	Hexachlorobutadiene	87-68-3	< 980	980	490	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-DUP-01-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260166
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

DUP1-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorocyclopentadiene	77-47-4	< 15,000	15,000	4,900	5
10726	Hexachloroethane	67-72-1	< 4,900	4,900	980	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 500	500	98	5
10726	Isophorone	78-59-1	< 980	980	490	5
10726	2-Methylnaphthalene	91-57-6	< 500	500	98	5
10726	2-Methylphenol	95-48-7	< 980	980	490	5
10726	4-Methylphenol	106-44-5	< 980	980	490	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 500	500	98	5
10726	2-Nitroaniline	88-74-4	< 980	980	490	5
10726	3-Nitroaniline	99-09-2	< 4,900	4,900	2,000	5
10726	4-Nitroaniline	100-01-6	< 4,900	4,900	2,000	5
10726	Nitrobenzene	98-95-3	< 980	980	490	5
10726	2-Nitrophenol	88-75-5	< 980	980	490	5
10726	4-Nitrophenol	100-02-7	< 15,000	15,000	4,900	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 980	980	490	5
10726	N-Nitrosodiphenylamine	86-30-6	< 980	980	490	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 4,900	4,900	2,000	5
10726	Pentachlorophenol	87-86-5	< 5,000	5,000	980	5
10726	Phenanthrene	85-01-8	< 500	500	98	5
10726	Phenol	108-95-2	< 980	980	490	5
10726	Pyrene	129-00-0	< 500	500	98	5
10726	2,4,5-Trichlorophenol	95-95-4	< 980	980	490	5
10726	2,4,6-Trichlorophenol	88-06-2	< 980	980	490	5
	Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.2	1
10885	PCB-1221	11104-28-2	< 20	20	5.4	1
10885	PCB-1232	11141-16-5	< 20	20	9.3	1
10885	PCB-1242	53469-21-9	< 20	20	3.9	1
10885	PCB-1248	12672-29-6	< 20	20	3.9	1
10885	PCB-1254	11097-69-1	28 P	20	3.9	1
10885	PCB-1260	11096-82-5	33	20	5.7	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.9	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	15,900	46.1	8.82	1
06946	Barium	7440-39-3	181	1.15	0.138	1
01650	Calcium	7440-70-2	3,890	46.1	3.84	1
06952	Cobalt	7440-48-4	6.43	1.15	0.0933	1
06953	Copper	7440-50-8	66.4	2.30	0.369	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-DUP-01-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260166
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

DUP1-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01654	Iron	7439-89-6	16,600	46.1	3.84	1
06955	Lead	7439-92-1	134	3.46	0.472	1
01657	Magnesium	7439-95-4	1,450	23.0	1.92	1
06958	Manganese	7439-96-5	523	1.15	0.138	1
06961	Nickel	7440-02-0	9.52	2.30	0.265	1
01662	Potassium	7440-09-7	1,210	115	19.3	1
01667	Sodium	7440-23-5	< 230	230	19.2	1
06970	Titanium	7440-32-6	727	2.30	0.426	1
06971	Vanadium	7440-62-2	30.2	1.15	0.265	1
06972	Zinc	7440-66-6	190	4.61	0.887	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.70	0.461	0.0760	2
06125	Arsenic	7440-38-2	10.4	0.921	0.173	2
06127	Beryllium	7440-41-7	0.740	0.230	0.0164	2
06128	Cadmium	7440-43-9	0.814	0.230	0.0530	2
06131	Chromium	7440-47-3	19.0	0.921	0.115	2
06141	Selenium	7782-49-2	< 0.921	0.921	0.115	2
06142	Silver	7440-22-4	< 0.230	0.230	0.0230	2
06145	Thallium	7440-28-0	< 0.230	0.230	0.0346	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.225	0.225	0.0113	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	15.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 15:55	Anita M Dale	46.39
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016 12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016 12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016 12:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-DUP-01-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260166
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

DUP1-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	05:04	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016	18:27	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	05:19	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:27	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	17:28	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:54	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:54	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:54	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:54	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:54	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:54	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	12:54	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	12:54	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016	10:47	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016	22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016	17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-11-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260167
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:45 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-1102

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	50	18	6	0.79
11995	Benzene	71-43-2	< 5	5	0.5	0.79
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.79
11995	Bromoform	75-25-2	< 5	5	0.9	0.79
11995	Bromomethane	74-83-9	< 5	5	2	0.79
11995	2-Butanone	78-93-3	< 9	9	4	0.79
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.79
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.79
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.79
11995	Chloroethane	75-00-3	< 5	5	2	0.79
11995	Chloroform	67-66-3	< 5	5	0.9	0.79
11995	Chloromethane	74-87-3	< 5	5	2	0.79
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.79
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.79
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.79
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.79
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.79
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.79
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.79
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.79
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.79
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.79
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.79
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.79
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.79
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.79
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.79
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.79
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.79
11995	Freon 113	76-13-1	< 9	9	2	0.79
11995	2-Hexanone	591-78-6	< 9	9	3	0.79
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.79
11995	Methyl Acetate	79-20-9	< 5	5	2	0.79
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.79
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.79
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.79
11995	Methylene Chloride	75-09-2	< 5	5	2	0.79
11995	Styrene	100-42-5	< 5	5	0.9	0.79
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.79
11995	Tetrachloroethene	127-18-4	47	5	0.9	0.79
11995	Toluene	108-88-3	< 5	5	0.9	0.79
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.79
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.79
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.79
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.79
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.79
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.79
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.79

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the

*=This limit was used in the evaluation of the final result

Sample Description: SS-11-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260167
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:45 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: trichloroethene and tetrachloroethene.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		ug/kg	ug/kg	ug/kg	
10726	Acenaphthene	83-32-9	< 20	20	4	1
10726	Acenaphthylene	208-96-8	< 20	20	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	53	20	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	77	1
10726	Benzo(a)anthracene	56-55-3	200	20	4	1
10726	Benzo(a)pyrene	50-32-8	280	20	4	1
10726	Benzo(b)fluoranthene	205-99-2	340	20	4	1
10726	Benzo(g,h,i)perylene	191-24-2	300	20	4	1
10726	Benzo(k)fluoranthene	207-08-9	130	20	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	77	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	77	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 77	77	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 38	38	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	220	20	4	1
10726	Dibenz(a,h)anthracene	53-70-3	27	20	4	1
10726	Dibenzofuran	132-64-9	62	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	120	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	77	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	77	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 580	580	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,200	1,200	350	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-11-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260167
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:45 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	77	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 200	200	77	1
10726	Fluoranthene	206-44-0	310	20	4	1
10726	Fluorene	86-73-7	< 20	20	4	1
10726	Hexachlorobenzene	118-74-1	< 20	20	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 580	580	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	240	20	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	230	20	4	1
10726	2-Methylphenol	95-48-7	< 38	38	19	1
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	210	20	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	77	1
10726	4-Nitroaniline	100-01-6	< 190	190	77	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 580	580	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	77	1
10726	Pentachlorophenol	87-86-5	< 200	200	38	1
10726	Phenanthrene	85-01-8	250	20	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	330	20	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 200	200	41	10
10885	PCB-1221	11104-28-2	< 200	200	53	10
10885	PCB-1232	11141-16-5	< 200	200	92	10
10885	PCB-1242	53469-21-9	< 200	200	38	10
10885	PCB-1248	12672-29-6	1,400	200	38	10
10885	PCB-1254	11097-69-1	710	200	38	10
10885	PCB-1260	11096-82-5	< 200	200	56	10
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-11-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260167
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:45 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	14,100	45.4	8.70	1
06946	Barium	7440-39-3	146	1.14	0.136	1
01650	Calcium	7440-70-2	1,570	45.4	3.78	1
06952	Cobalt	7440-48-4	7.14	1.14	0.0920	1
06953	Copper	7440-50-8	81.3	2.27	0.364	1
01654	Iron	7439-89-6	22,600	45.4	3.78	1
06955	Lead	7439-92-1	152	3.41	0.466	1
01657	Magnesium	7439-95-4	1,030	22.7	1.90	1
06958	Manganese	7439-96-5	682	1.14	0.136	1
06961	Nickel	7440-02-0	14.8	2.27	0.261	1
01662	Potassium	7440-09-7	996	114	19.1	1
01667	Sodium	7440-23-5	< 227	227	19.0	1
06970	Titanium	7440-32-6	620	2.27	0.420	1
06971	Vanadium	7440-62-2	24.4	1.14	0.261	1
06972	Zinc	7440-66-6	270	4.54	0.875	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	2.04	0.454	0.0750	2
06125	Arsenic	7440-38-2	7.19	0.909	0.170	2
06127	Beryllium	7440-41-7	0.819	0.227	0.0161	2
06128	Cadmium	7440-43-9	1.00	0.227	0.0523	2
06131	Chromium	7440-47-3	22.2	0.909	0.114	2
06141	Selenium	7782-49-2	< 0.909	0.909	0.114	2
06142	Silver	7440-22-4	< 0.227	0.227	0.0227	2
06145	Thallium	7440-28-0	< 0.227	0.227	0.0341	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.222	0.222	0.0111	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	13.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160631AA	03/04/2016 01:27	Christopher G Torres	0.79

*=This limit was used in the evaluation of the final result

Sample Description: SS-11-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260167
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:45 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-1102

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016	12:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016	12:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016	12:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	05:27	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016	18:39	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	05:37	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:31	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	17:32	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	12:57	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	12:57	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	12:57	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	12:57	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:56	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	12:57	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	12:57	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	12:57	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016	10:49	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016	22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016	17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-12-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260168
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-1202

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,200	1,200	420	52.37
11995	Benzene	71-43-2	< 300	300	30	52.37
11995	Bromodichloromethane	75-27-4	< 300	300	60	52.37
11995	Bromoform	75-25-2	< 300	300	60	52.37
11995	Bromomethane	74-83-9	< 300	300	120	52.37
11995	2-Butanone	78-93-3	< 600	600	240	52.37
11995	Carbon Disulfide	75-15-0	< 300	300	60	52.37
11995	Carbon Tetrachloride	56-23-5	< 300	300	60	52.37
11995	Chlorobenzene	108-90-7	< 300	300	60	52.37
11995	Chloroethane	75-00-3	< 300	300	120	52.37
11995	Chloroform	67-66-3	< 300	300	60	52.37
11995	Chloromethane	74-87-3	< 300	300	120	52.37
11995	Cyclohexane	110-82-7	< 300	300	60	52.37
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 300	300	120	52.37
11995	Dibromochloromethane	124-48-1	< 300	300	60	52.37
11995	1,2-Dibromoethane	106-93-4	< 300	300	60	52.37
11995	1,2-Dichlorobenzene	95-50-1	< 300	300	60	52.37
11995	1,3-Dichlorobenzene	541-73-1	< 300	300	60	52.37
11995	1,4-Dichlorobenzene	106-46-7	< 300	300	60	52.37
11995	Dichlorodifluoromethane	75-71-8	< 300	300	120	52.37
11995	1,1-Dichloroethane	75-34-3	< 300	300	60	52.37
11995	1,2-Dichloroethane	107-06-2	< 300	300	60	52.37
11995	1,1-Dichloroethene	75-35-4	< 300	300	60	52.37
11995	cis-1,2-Dichloroethene	156-59-2	< 300	300	60	52.37
11995	trans-1,2-Dichloroethene	156-60-5	< 300	300	60	52.37
11995	1,2-Dichloropropane	78-87-5	< 300	300	60	52.37
11995	cis-1,3-Dichloropropene	10061-01-5	< 300	300	60	52.37
11995	trans-1,3-Dichloropropene	10061-02-6	< 300	300	60	52.37
11995	Ethylbenzene	100-41-4	< 300	300	60	52.37
11995	Freon 113	76-13-1	< 600	600	120	52.37
11995	2-Hexanone	591-78-6	< 600	600	180	52.37
11995	Isopropylbenzene	98-82-8	< 300	300	60	52.37
11995	Methyl Acetate	79-20-9	< 300	300	120	52.37
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 300	300	30	52.37
11995	4-Methyl-2-pentanone	108-10-1	< 600	600	180	52.37
11995	Methylcyclohexane	108-87-2	< 300	300	60	52.37
11995	Methylene Chloride	75-09-2	< 300	300	120	52.37
11995	Styrene	100-42-5	< 300	300	60	52.37
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 300	300	60	52.37
11995	Tetrachloroethene	127-18-4	1,700	300	60	52.37
11995	Toluene	108-88-3	1,200	300	60	52.37
11995	1,2,4-Trichlorobenzene	120-82-1	< 300	300	60	52.37
11995	1,1,1-Trichloroethane	71-55-6	< 300	300	60	52.37
11995	1,1,2-Trichloroethane	79-00-5	< 300	300	60	52.37
11995	Trichloroethene	79-01-6	< 300	300	60	52.37
11995	Trichlorofluoromethane	75-69-4	< 300	300	120	52.37
11995	Vinyl Chloride	75-01-4	< 300	300	60	52.37
11995	Xylene (Total)	1330-20-7	1,300	300	60	52.37

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: SS-12-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260168
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-1202

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
	Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 480	480	95	5
10726	Acenaphthylene	208-96-8	< 480	480	95	5
10726	Acetophenone	98-86-2	< 950	950	470	5
10726	Anthracene	120-12-7	< 480	480	95	5
10726	Atrazine	1912-24-9	< 4,700	4,700	950	5
10726	Benzaldehyde	100-52-7	< 4,700	4,700	1,900	5
10726	Benzo(a)anthracene	56-55-3	< 480	480	95	5
10726	Benzo(a)pyrene	50-32-8	< 480	480	95	5
10726	Benzo(b)fluoranthene	205-99-2	520	480	95	5
10726	Benzo(g,h,i)perylene	191-24-2	500	480	95	5
10726	Benzo(k)fluoranthene	207-08-9	< 480	480	95	5
10726	1,1'-Biphenyl	92-52-4	< 950	950	470	5
10726	4-Bromophenyl-phenylether	101-55-3	< 950	950	470	5
10726	Butylbenzylphthalate	85-68-7	< 4,700	4,700	1,900	5
10726	Di-n-butylphthalate	84-74-2	< 4,700	4,700	1,900	5
10726	Caprolactam	105-60-2	< 4,700	4,700	950	5
10726	Carbazole	86-74-8	< 950	950	470	5
10726	4-Chloro-3-methylphenol	59-50-7	< 950	950	470	5
10726	4-Chloroaniline	106-47-8	< 1,900	1,900	950	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 950	950	470	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 950	950	470	5
10726	2-Chloronaphthalene	91-58-7	< 940	940	190	5
10726	2-Chlorophenol	95-57-8	< 950	950	470	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 950	950	470	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 950	950	470	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 480	480	95	5
10726	Dibenz(a,h)anthracene	53-70-3	< 480	480	95	5
10726	Dibenzofuran	132-64-9	< 950	950	470	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 9,500	9,500	2,800	5
10726	2,4-Dichlorophenol	120-83-2	< 950	950	470	5
10726	Diethylphthalate	84-66-2	< 4,700	4,700	1,900	5
10726	2,4-Dimethylphenol	105-67-9	< 950	950	470	5
10726	Dimethylphthalate	131-11-3	< 4,700	4,700	1,900	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 14,000	14,000	4,700	5
10726	2,4-Dinitrophenol	51-28-5	< 28,000	28,000	8,500	5
10726	2,4-Dinitrotoluene	121-14-2	< 4,700	4,700	1,900	5
10726	2,6-Dinitrotoluene	606-20-2	< 950	950	470	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 4,800	4,800	1,900	5
10726	Fluoranthene	206-44-0	< 480	480	95	5
10726	Fluorene	86-73-7	< 480	480	95	5
10726	Hexachlorobenzene	118-74-1	< 480	480	95	5
10726	Hexachlorobutadiene	87-68-3	< 950	950	470	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-12-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260168
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-1202

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorocyclopentadiene	77-47-4	< 14,000	14,000	4,700	5
10726	Hexachloroethane	67-72-1	< 4,700	4,700	950	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 480	480	95	5
10726	Isophorone	78-59-1	< 950	950	470	5
10726	2-Methylnaphthalene	91-57-6	< 480	480	95	5
10726	2-Methylphenol	95-48-7	< 950	950	470	5
10726	4-Methylphenol	106-44-5	< 950	950	470	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 480	480	95	5
10726	2-Nitroaniline	88-74-4	< 950	950	470	5
10726	3-Nitroaniline	99-09-2	< 4,700	4,700	1,900	5
10726	4-Nitroaniline	100-01-6	< 4,700	4,700	1,900	5
10726	Nitrobenzene	98-95-3	< 950	950	470	5
10726	2-Nitrophenol	88-75-5	< 950	950	470	5
10726	4-Nitrophenol	100-02-7	< 14,000	14,000	4,700	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 950	950	470	5
10726	N-Nitrosodiphenylamine	86-30-6	< 950	950	470	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 4,700	4,700	1,900	5
10726	Pentachlorophenol	87-86-5	< 4,800	4,800	950	5
10726	Phenanthrene	85-01-8	< 480	480	95	5
10726	Phenol	108-95-2	< 950	950	470	5
10726	Pyrene	129-00-0	< 480	480	95	5
10726	2,4,5-Trichlorophenol	95-95-4	< 950	950	470	5
10726	2,4,6-Trichlorophenol	88-06-2	< 950	950	470	5
	Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 97	97	21	5
10885	PCB-1221	11104-28-2	< 97	97	26	5
10885	PCB-1232	11141-16-5	< 97	97	46	5
10885	PCB-1242	53469-21-9	< 97	97	19	5
10885	PCB-1248	12672-29-6	< 97	97	19	5
10885	PCB-1254	11097-69-1	< 97	97	19	5
10885	PCB-1260	11096-82-5	< 97	97	28	5
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	16,700	44.1	8.45	1
06946	Barium	7440-39-3	185	1.10	0.132	1
01650	Calcium	7440-70-2	3,840	44.1	3.67	1
06952	Cobalt	7440-48-4	6.93	1.10	0.0893	1
06953	Copper	7440-50-8	80.4	2.21	0.353	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-12-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260168
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-1202

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01654	Iron	7439-89-6	22,000	44.1	3.67	1
06955	Lead	7439-92-1	107	3.31	0.452	1
01657	Magnesium	7439-95-4	1,400	22.1	1.84	1
06958	Manganese	7439-96-5	569	1.10	0.132	1
06961	Nickel	7440-02-0	9.66	2.21	0.254	1
01662	Potassium	7440-09-7	1,200	110	18.5	1
01667	Sodium	7440-23-5	< 221	221	18.4	1
06970	Titanium	7440-32-6	731	2.21	0.408	1
06971	Vanadium	7440-62-2	31.5	1.10	0.254	1
06972	Zinc	7440-66-6	155	4.41	0.849	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.49	0.441	0.0728	2
06125	Arsenic	7440-38-2	14.8	0.882	0.165	2
06127	Beryllium	7440-41-7	0.789	0.221	0.0157	2
06128	Cadmium	7440-43-9	0.727	0.221	0.0507	2
06131	Chromium	7440-47-3	19.0	0.882	0.110	2
06141	Selenium	7782-49-2	< 0.882	0.882	0.110	2
06142	Silver	7440-22-4	< 0.221	0.221	0.0221	2
06145	Thallium	7440-28-0	0.226	0.221	0.0331	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.226	0.226	0.0113	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 16:18	Anita M Dale	52.37
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016 13:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-12-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260168
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 13:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-1202

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	05:50	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016	19:20	Jessica L Miller	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	06:49	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:34	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	17:35	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	13:00	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	13:00	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	13:00	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	13:00	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:57	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	13:00	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	13:00	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	13:00	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016	10:52	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016	22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016	17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-09-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260169
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0902

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	29	21	7	0.89
11995	Benzene	71-43-2	< 5	5	0.5	0.89
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.89
11995	Bromoform	75-25-2	< 5	5	1	0.89
11995	Bromomethane	74-83-9	< 5	5	2	0.89
11995	2-Butanone	78-93-3	< 10	10	4	0.89
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.89
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.89
11995	Chlorobenzene	108-90-7	< 5	5	1	0.89
11995	Chloroethane	75-00-3	< 5	5	2	0.89
11995	Chloroform	67-66-3	< 5	5	1	0.89
11995	Chloromethane	74-87-3	< 5	5	2	0.89
11995	Cyclohexane	110-82-7	< 5	5	1	0.89
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.89
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.89
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.89
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.89
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.89
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.89
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.89
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.89
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.89
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.89
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.89
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.89
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.89
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.89
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.89
11995	Ethylbenzene	100-41-4	< 5	5	1	0.89
11995	Freon 113	76-13-1	< 10	10	2	0.89
11995	2-Hexanone	591-78-6	< 10	10	3	0.89
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.89
11995	Methyl Acetate	79-20-9	< 5	5	2	0.89
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.89
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.89
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.89
11995	Methylene Chloride	75-09-2	< 5	5	2	0.89
11995	Styrene	100-42-5	< 5	5	1	0.89
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.89
11995	Tetrachloroethene	127-18-4	18	5	1	0.89
11995	Toluene	108-88-3	< 5	5	1	0.89
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.89
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.89
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.89
11995	Trichloroethene	79-01-6	< 5	5	1	0.89
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.89
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.89
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.89

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the

*=This limit was used in the evaluation of the final result

Sample Description: SS-09-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260169
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: tetrachloroethene.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 20	20	4	1
10726	Acenaphthylene	208-96-8	< 20	20	4	1
10726	Acetophenone	98-86-2	68	38	19	1
10726	Anthracene	120-12-7	36	20	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	77	1
10726	Benzo(a)anthracene	56-55-3	130	20	4	1
10726	Benzo(a)pyrene	50-32-8	110	20	4	1
10726	Benzo(b)fluoranthene	205-99-2	180	20	4	1
10726	Benzo(g,h,i)perylene	191-24-2	140	20	4	1
10726	Benzo(k)fluoranthene	207-08-9	65	20	4	1
10726	1,1'-Biphenyl	92-52-4	60	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	77	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	77	1
10726	Caprolactam	105-60-2	200	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 77	77	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 38	38	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	170	20	4	1
10726	Dibenz(a,h)anthracene	53-70-3	50	20	4	1
10726	Dibenzofuran	132-64-9	220	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	77	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	77	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 570	570	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-09-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260169
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	77	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 200	200	77	1
10726	Fluoranthene	206-44-0	170	20	4	1
10726	Fluorene	86-73-7	< 20	20	4	1
10726	Hexachlorobenzene	118-74-1	< 20	20	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 570	570	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	100	20	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	780	20	4	1
10726	2-Methylphenol	95-48-7	< 38	38	19	1
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	630	20	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	77	1
10726	4-Nitroaniline	100-01-6	< 190	190	77	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 570	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	77	1
10726	Pentachlorophenol	87-86-5	< 200	200	38	1
10726	Phenanthrene	85-01-8	440	20	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	180	20	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 200	200	42	10
10885	PCB-1221	11104-28-2	< 200	200	54	10
10885	PCB-1232	11141-16-5	< 200	200	93	10
10885	PCB-1242	53469-21-9	< 200	200	38	10
10885	PCB-1248	12672-29-6	< 200	200	38	10
10885	PCB-1254	11097-69-1	< 200	200	38	10
10885	PCB-1260	11096-82-5	< 200	200	57	10
	Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.					
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-09-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260169
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0902

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	15,100	44.9	8.60	1
06946	Barium	7440-39-3	137	1.12	0.135	1
01650	Calcium	7440-70-2	902	44.9	3.74	1
06952	Cobalt	7440-48-4	7.13	1.12	0.0910	1
06953	Copper	7440-50-8	50.7	2.25	0.359	1
01654	Iron	7439-89-6	17,500	44.9	3.74	1
06955	Lead	7439-92-1	61.0	3.37	0.461	1
01657	Magnesium	7439-95-4	1,370	22.5	1.88	1
06958	Manganese	7439-96-5	469	1.12	0.135	1
06961	Nickel	7440-02-0	8.47	2.25	0.258	1
01662	Potassium	7440-09-7	1,330	112	18.9	1
01667	Sodium	7440-23-5	< 225	225	18.8	1
06970	Titanium	7440-32-6	609	2.25	0.416	1
06971	Vanadium	7440-62-2	35.1	1.12	0.258	1
06972	Zinc	7440-66-6	77.6	4.49	0.865	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.40	0.449	0.0741	2
06125	Arsenic	7440-38-2	92.2	0.899	0.168	2
06127	Beryllium	7440-41-7	0.607	0.225	0.0160	2
06128	Cadmium	7440-43-9	0.278	0.225	0.0517	2
06131	Chromium	7440-47-3	19.3	0.899	0.112	2
06141	Selenium	7782-49-2	< 0.899	0.899	0.112	2
06142	Silver	7440-22-4	< 0.225	0.225	0.0225	2
06145	Thallium	7440-28-0	0.249	0.225	0.0337	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.230	0.230	0.0115	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-09-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260169
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0902

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160631AA	03/04/2016	01:50	Christopher G Torres	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016	12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016	12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016	12:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	06:14	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016	19:13	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	05:55	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:37	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	17:38	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	13:04	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	13:04	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	13:04	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	13:04	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	22:59	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	13:04	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	13:04	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	13:04	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016	10:54	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016	22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016	17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-10-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260170
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 19	19	7	0.84
11995	Benzene	71-43-2	< 5	5	0.5	0.84
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.84
11995	Bromoform	75-25-2	< 5	5	0.9	0.84
11995	Bromomethane	74-83-9	< 5	5	2	0.84
11995	2-Butanone	78-93-3	< 9	9	4	0.84
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.84
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.84
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.84
11995	Chloroethane	75-00-3	< 5	5	2	0.84
11995	Chloroform	67-66-3	< 5	5	0.9	0.84
11995	Chloromethane	74-87-3	< 5	5	2	0.84
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.84
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.84
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.84
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.84
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.84
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.84
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.84
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.84
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.84
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.84
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.84
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.84
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.84
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.84
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.84
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.84
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.84
11995	Freon 113	76-13-1	< 9	9	2	0.84
11995	2-Hexanone	591-78-6	< 9	9	3	0.84
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.84
11995	Methyl Acetate	79-20-9	< 5	5	2	0.84
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.84
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.84
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.84
11995	Methylene Chloride	75-09-2	< 5	5	2	0.84
11995	Styrene	100-42-5	< 5	5	0.9	0.84
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.84
11995	Tetrachloroethene	127-18-4	23	5	0.9	0.84
11995	Toluene	108-88-3	< 5	5	0.9	0.84
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.84
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.84
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.84
11995	Trichloroethene	79-01-6	10	5	0.9	0.84
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.84
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.84
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.84

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the

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Sample Description: SS-10-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260170
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

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1200 Peachtree Street, NE
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associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: trichloroethene and tetrachloroethene.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		ug/kg	ug/kg	ug/kg	
10726	Acenaphthene	83-32-9	110	19	4	1
10726	Acenaphthylene	208-96-8	29	19	4	1
10726	Acetophenone	98-86-2	< 37	37	18	1
10726	Anthracene	120-12-7	120	19	4	1
10726	Atrazine	1912-24-9	< 180	180	37	1
10726	Benzaldehyde	100-52-7	< 180	180	74	1
10726	Benzo(a)anthracene	56-55-3	1,300	19	4	1
10726	Benzo(a)pyrene	50-32-8	3,100	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	3,500	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	3,800	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	1,400	19	4	1
10726	1,1'-Biphenyl	92-52-4	61	37	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	74	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	74	1
10726	Caprolactam	105-60-2	< 180	180	37	1
10726	Carbazole	86-74-8	92	37	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	18	1
10726	4-Chloroaniline	106-47-8	< 74	74	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	18	1
10726	2-Chloronaphthalene	91-58-7	< 36	36	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,400	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	790	19	4	1
10726	Dibenzofuran	132-64-9	180	37	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	18	1
10726	Diethylphthalate	84-66-2	< 180	180	74	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	74	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 550	550	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	330	1

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Sample Description: SS-10-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260170
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:30 by TK

Submitted: 02/25/2016 09:50
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	74	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	74	1
10726	Fluoranthene	206-44-0	1,200	19	4	1
10726	Fluorene	86-73-7	35	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 550	550	180	1
10726	Hexachloroethane	67-72-1	< 180	180	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	3,000	19	4	1
10726	Isophorone	78-59-1	< 37	37	18	1
10726	2-Methylnaphthalene	91-57-6	700	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	18	1
10726	4-Methylphenol	106-44-5	< 37	37	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	590	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	74	1
10726	4-Nitroaniline	100-01-6	< 180	180	74	1
10726	Nitrobenzene	98-95-3	< 37	37	18	1
10726	2-Nitrophenol	88-75-5	< 37	37	18	1
10726	4-Nitrophenol	100-02-7	< 550	550	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	74	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	670	19	4	1
10726	Phenol	108-95-2	< 37	37	18	1
10726	Pyrene	129-00-0	1,400	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	18	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	390	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	500	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	880	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	360	100
10885	PCB-1248	12672-29-6	< 1,900	1,900	360	100
10885	PCB-1254	11097-69-1	< 1,900	1,900	360	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	540	100
	Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.					
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-10-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260170
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:30 by TK

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,800	43.7	8.36	1
06946	Barium	7440-39-3	112	1.09	0.131	1
01650	Calcium	7440-70-2	2,700	43.7	3.64	1
06952	Cobalt	7440-48-4	7.31	1.09	0.0884	1
06953	Copper	7440-50-8	97.5	2.18	0.349	1
01654	Iron	7439-89-6	38,500	218	18.2	5
06955	Lead	7439-92-1	146	3.28	0.448	1
01657	Magnesium	7439-95-4	1,550	21.8	1.82	1
06958	Manganese	7439-96-5	571	1.09	0.131	1
06961	Nickel	7440-02-0	47.4	2.18	0.251	1
01662	Potassium	7440-09-7	1,180	109	18.3	1
01667	Sodium	7440-23-5	< 218	218	18.2	1
06970	Titanium	7440-32-6	541	2.18	0.404	1
06971	Vanadium	7440-62-2	40.9	1.09	0.251	1
06972	Zinc	7440-66-6	309	4.37	0.841	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	3.30	0.437	0.0721	2
06125	Arsenic	7440-38-2	16.6	0.873	0.164	2
06127	Beryllium	7440-41-7	0.573	0.218	0.0155	2
06128	Cadmium	7440-43-9	1.43	0.218	0.0502	2
06131	Chromium	7440-47-3	46.8	0.873	0.109	2
06141	Selenium	7782-49-2	< 0.873	0.873	0.109	2
06142	Silver	7440-22-4	< 0.218	0.218	0.0218	2
06145	Thallium	7440-28-0	< 0.218	0.218	0.0328	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.214	0.214	0.0107	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-10-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260170
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:30 by TK

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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160631AA	03/04/2016	05:35	Christopher G Torres	0.84
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016	12:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016	12:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016	12:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	06:37	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016	19:25	Jessica L Miller	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	06:13	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:41	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	19:07	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	17:42	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	13:07	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	13:07	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	13:07	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	13:07	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	23:01	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	13:07	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	13:07	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	13:07	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016	10:56	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016	22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016	17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-08-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260171
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0802

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	37	17	6	0.74
11995	Benzene	71-43-2	< 4	4	0.4	0.74
11995	Bromodichloromethane	75-27-4	< 4	4	0.8	0.74
11995	Bromoform	75-25-2	< 4	4	0.8	0.74
11995	Bromomethane	74-83-9	< 4	4	2	0.74
11995	2-Butanone	78-93-3	< 8	8	3	0.74
11995	Carbon Disulfide	75-15-0	< 4	4	0.8	0.74
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.8	0.74
11995	Chlorobenzene	108-90-7	< 4	4	0.8	0.74
11995	Chloroethane	75-00-3	< 4	4	2	0.74
11995	Chloroform	67-66-3	< 4	4	0.8	0.74
11995	Chloromethane	74-87-3	< 4	4	2	0.74
11995	Cyclohexane	110-82-7	< 4	4	0.8	0.74
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.74
11995	Dibromochloromethane	124-48-1	< 4	4	0.8	0.74
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.8	0.74
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.8	0.74
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.8	0.74
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.8	0.74
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.74
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.8	0.74
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.8	0.74
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.8	0.74
11995	cis-1,2-Dichloroethene	156-59-2	< 4	4	0.8	0.74
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.8	0.74
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.8	0.74
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.8	0.74
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.8	0.74
11995	Ethylbenzene	100-41-4	< 4	4	0.8	0.74
11995	Freon 113	76-13-1	< 8	8	2	0.74
11995	2-Hexanone	591-78-6	< 8	8	3	0.74
11995	Isopropylbenzene	98-82-8	< 4	4	0.8	0.74
11995	Methyl Acetate	79-20-9	< 4	4	2	0.74
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 4	4	0.4	0.74
11995	4-Methyl-2-pentanone	108-10-1	< 8	8	3	0.74
11995	Methylcyclohexane	108-87-2	< 4	4	0.8	0.74
11995	Methylene Chloride	75-09-2	< 4	4	2	0.74
11995	Styrene	100-42-5	< 4	4	0.8	0.74
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.8	0.74
11995	Tetrachloroethene	127-18-4	9	4	0.8	0.74
11995	Toluene	108-88-3	< 4	4	0.8	0.74
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.8	0.74
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.8	0.74
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.8	0.74
11995	Trichloroethene	79-01-6	< 4	4	0.8	0.74
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.74
11995	Vinyl Chloride	75-01-4	< 4	4	0.8	0.74
11995	Xylene (Total)	1330-20-7	< 4	4	0.8	0.74

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the

*=This limit was used in the evaluation of the final result

Sample Description: SS-08-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260171
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0802

associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: tetrachloroethene.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		ug/kg	ug/kg	ug/kg	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	75	1
10726	Benzo(a)anthracene	56-55-3	93	19	4	1
10726	Benzo(a)pyrene	50-32-8	92	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	140	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	76	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	50	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	75	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	75	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 75	75	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	79	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 38	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	75	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 560	560	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1

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Sample Description: SS-08-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260171
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0802

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	75	1
10726	Fluoranthene	206-44-0	130	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 560	560	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	67	19	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1
10726	2-Methylphenol	95-48-7	< 38	38	19	1
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	75	1
10726	4-Nitroaniline	100-01-6	< 190	190	75	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 560	560	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	75	1
10726	Pentachlorophenol	87-86-5	< 190	190	38	1
10726	Phenanthrene	85-01-8	50	19	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	150	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.0	1
10885	PCB-1221	11104-28-2	< 19	19	5.1	1
10885	PCB-1232	11141-16-5	< 19	19	8.9	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	35	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.4	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-08-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260171
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0802

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,600	44.8	8.57	1
06946	Barium	7440-39-3	61.4	1.12	0.134	1
01650	Calcium	7440-70-2	1,400	44.8	3.73	1
06952	Cobalt	7440-48-4	5.27	1.12	0.0906	1
06953	Copper	7440-50-8	39.1	2.24	0.358	1
01654	Iron	7439-89-6	15,100	44.8	3.73	1
06955	Lead	7439-92-1	37.8	3.36	0.459	1
01657	Magnesium	7439-95-4	2,830	22.4	1.87	1
06958	Manganese	7439-96-5	289	1.12	0.134	1
06961	Nickel	7440-02-0	6.07	2.24	0.257	1
01662	Potassium	7440-09-7	2,760	112	18.8	1
01667	Sodium	7440-23-5	< 224	224	18.7	1
06970	Titanium	7440-32-6	879	2.24	0.414	1
06971	Vanadium	7440-62-2	30.8	1.12	0.257	1
06972	Zinc	7440-66-6	58.7	4.48	0.861	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.448	0.448	0.0738	2
06125	Arsenic	7440-38-2	2.60	0.895	0.168	2
06127	Beryllium	7440-41-7	0.398	0.224	0.0159	2
06128	Cadmium	7440-43-9	< 0.224	0.224	0.0515	2
06131	Chromium	7440-47-3	12.8	0.895	0.112	2
06141	Selenium	7782-49-2	< 0.895	0.895	0.112	2
06142	Silver	7440-22-4	< 0.224	0.224	0.0224	2
06145	Thallium	7440-28-0	< 0.224	0.224	0.0336	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.214	0.214	0.0107	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160631AA	03/04/2016 02:12	Christopher G Torres	0.74

*=This limit was used in the evaluation of the final result

Sample Description: SS-08-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260171
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 12:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

-0802

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016	12:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016	12:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016	12:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16062SLI026	03/04/2016	07:01	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16062SLI026	03/03/2016	09:00	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016	21:03	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	06:31	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637001	03/04/2016	15:44	Eric L Eby	1
01654	Iron	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637001	03/03/2016	17:45	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637001A	03/02/2016	13:10	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637001A	03/02/2016	13:10	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637001A	03/02/2016	13:10	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637001A	03/02/2016	13:10	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637001A	03/06/2016	23:03	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	160610637001B	03/02/2016	13:10	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637001A	03/02/2016	13:10	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637001A	03/02/2016	13:10	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638001	03/02/2016	10:58	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637001	03/01/2016	22:20	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638001	03/02/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016	17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-6-8-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260172
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW368

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,000	1,000	350	44.64
11995	Benzene	71-43-2	< 250	250	25	44.64
11995	Bromodichloromethane	75-27-4	< 250	250	50	44.64
11995	Bromoform	75-25-2	< 250	250	50	44.64
11995	Bromomethane	74-83-9	< 250	250	100	44.64
11995	2-Butanone	78-93-3	< 500	500	200	44.64
11995	Carbon Disulfide	75-15-0	< 250	250	50	44.64
11995	Carbon Tetrachloride	56-23-5	< 250	250	50	44.64
11995	Chlorobenzene	108-90-7	< 250	250	50	44.64
11995	Chloroethane	75-00-3	< 250	250	100	44.64
11995	Chloroform	67-66-3	< 250	250	50	44.64
11995	Chloromethane	74-87-3	< 250	250	100	44.64
11995	Cyclohexane	110-82-7	< 250	250	50	44.64
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 250	250	100	44.64
11995	Dibromochloromethane	124-48-1	< 250	250	50	44.64
11995	1,2-Dibromoethane	106-93-4	< 250	250	50	44.64
11995	1,2-Dichlorobenzene	95-50-1	< 250	250	50	44.64
11995	1,3-Dichlorobenzene	541-73-1	< 250	250	50	44.64
11995	1,4-Dichlorobenzene	106-46-7	< 250	250	50	44.64
11995	Dichlorodifluoromethane	75-71-8	< 250	250	100	44.64
11995	1,1-Dichloroethane	75-34-3	< 250	250	50	44.64
11995	1,2-Dichloroethane	107-06-2	< 250	250	50	44.64
11995	1,1-Dichloroethene	75-35-4	< 250	250	50	44.64
11995	cis-1,2-Dichloroethene	156-59-2	< 250	250	50	44.64
11995	trans-1,2-Dichloroethene	156-60-5	< 250	250	50	44.64
11995	1,2-Dichloropropane	78-87-5	< 250	250	50	44.64
11995	cis-1,3-Dichloropropene	10061-01-5	< 250	250	50	44.64
11995	trans-1,3-Dichloropropene	10061-02-6	< 250	250	50	44.64
11995	Ethylbenzene	100-41-4	< 250	250	50	44.64
11995	Freon 113	76-13-1	< 500	500	100	44.64
11995	2-Hexanone	591-78-6	< 500	500	150	44.64
11995	Isopropylbenzene	98-82-8	< 250	250	50	44.64
11995	Methyl Acetate	79-20-9	< 250	250	100	44.64
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 250	250	25	44.64
11995	4-Methyl-2-pentanone	108-10-1	< 500	500	150	44.64
11995	Methylcyclohexane	108-87-2	< 250	250	50	44.64
11995	Methylene Chloride	75-09-2	< 250	250	100	44.64
11995	Styrene	100-42-5	< 250	250	50	44.64
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 250	250	50	44.64
11995	Tetrachloroethene	127-18-4	< 250	250	50	44.64
11995	Toluene	108-88-3	< 250	250	50	44.64
11995	1,2,4-Trichlorobenzene	120-82-1	< 250	250	50	44.64
11995	1,1,1-Trichloroethane	71-55-6	< 250	250	50	44.64
11995	1,1,2-Trichloroethane	79-00-5	< 250	250	50	44.64
11995	Trichloroethene	79-01-6	< 250	250	50	44.64
11995	Trichlorofluoromethane	75-69-4	< 250	250	100	44.64
11995	Vinyl Chloride	75-01-4	< 250	250	50	44.64
11995	Xylene (Total)	1330-20-7	< 250	250	50	44.64

Reporting limits were raised due to interference from the sample matrix.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-6-8-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260172
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW368

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 37	37	18	1
10726	Anthracene	120-12-7	26	19	4	1
10726	Atrazine	1912-24-9	< 180	180	37	1
10726	Benzaldehyde	100-52-7	< 180	180	74	1
10726	Benzo(a)anthracene	56-55-3	88	19	4	1
10726	Benzo(a)pyrene	50-32-8	110	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	160	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	120	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	65	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	74	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	74	1
10726	Caprolactam	105-60-2	< 180	180	37	1
10726	Carbazole	86-74-8	< 37	37	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	18	1
10726	4-Chloroaniline	106-47-8	< 74	74	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	18	1
10726	2-Chloronaphthalene	91-58-7	< 36	36	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	98	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	31	19	4	1
10726	Dibenzofuran	132-64-9	< 37	37	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	18	1
10726	Diethylphthalate	84-66-2	< 180	180	74	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	74	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 550	550	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	330	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	74	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	230	190	74	1
10726	Fluoranthene	206-44-0	150	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 550	550	180	1

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Norfolk Southern Railway Co.
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MW368

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachloroethane	67-72-1	< 180	180	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	97	19	4	1
10726	Isophorone	78-59-1	< 37	37	18	1
10726	2-Methylnaphthalene	91-57-6	40	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	18	1
10726	4-Methylphenol	106-44-5	< 37	37	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	39	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	74	1
10726	4-Nitroaniline	100-01-6	< 180	180	74	1
10726	Nitrobenzene	98-95-3	< 37	37	18	1
10726	2-Nitrophenol	88-75-5	< 37	37	18	1
10726	4-Nitrophenol	100-02-7	< 550	550	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	74	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	110	19	4	1
10726	Phenol	108-95-2	< 37	37	18	1
10726	Pyrene	129-00-0	130	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	880	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,600	2,600	880	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1

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MW368

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	400	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	510	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	890	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	370	100
10885	PCB-1248	12672-29-6	< 1,900	1,900	370	100
10885	PCB-1254	11097-69-1	15,000	1,900	370	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	550	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	15,600	33.7	6.45	1
06946	Barium	7440-39-3	105	0.842	0.101	1
01650	Calcium	7440-70-2	1,410	33.7	2.80	1
06952	Cobalt	7440-48-4	7.01	0.842	0.0682	1
06953	Copper	7440-50-8	114	1.68	0.269	1
01654	Iron	7439-89-6	30,000	168	14.0	5
06955	Lead	7439-92-1	152	2.53	0.345	1
01657	Magnesium	7439-95-4	1,970	16.8	1.41	1
06958	Manganese	7439-96-5	246	0.842	0.101	1
06961	Nickel	7440-02-0	23.6	1.68	0.194	1
01662	Potassium	7440-09-7	1,550	84.2	14.1	1
01667	Sodium	7440-23-5	< 168	168	14.1	1
06970	Titanium	7440-32-6	739	1.68	0.312	1
06971	Vanadium	7440-62-2	34.6	0.842	0.194	1
06972	Zinc	7440-66-6	650	3.37	0.648	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.22	0.337	0.0556	2
06125	Arsenic	7440-38-2	2.66	0.674	0.126	2
06127	Beryllium	7440-41-7	0.514	0.168	0.0120	2
06128	Cadmium	7440-43-9	1.56	0.168	0.0387	2
06131	Chromium	7440-47-3	32.7	0.674	0.0842	2
06141	Selenium	7782-49-2	< 0.674	0.674	0.0842	2
06142	Silver	7440-22-4	< 0.168	0.168	0.0168	2
06145	Thallium	7440-28-0	0.194	0.168	0.0253	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.208	0.208	0.0104	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-3-6-8-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260172
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

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MW368

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016	12:04	Anita M Dale	44.64
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016	09:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016	09:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016	09:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/06/2016	18:34	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016	12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016	06:27	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016	20:10	Jessica L Miller	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	08:36	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:20	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	22:21	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016	21:03	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	10:48	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	10:48	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	10:48	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	10:48	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	10:48	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	10:48	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	10:48	Deborah A Krady	2

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Analysis Report

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Former Cohn Property / Columbus, GA

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MW368

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 10:48	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 06:50	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-2-4-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260173
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW324

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	140	20	7	0.85
11995	Benzene	71-43-2	< 5	5	0.5	0.85
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.85
11995	Bromoform	75-25-2	< 5	5	1	0.85
11995	Bromomethane	74-83-9	< 5	5	2	0.85
11995	2-Butanone	78-93-3	16	10	4	0.85
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.85
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.85
11995	Chlorobenzene	108-90-7	< 5	5	1	0.85
11995	Chloroethane	75-00-3	< 5	5	2	0.85
11995	Chloroform	67-66-3	< 5	5	1	0.85
11995	Chloromethane	74-87-3	< 5	5	2	0.85
11995	Cyclohexane	110-82-7	< 5	5	1	0.85
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.85
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.85
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.85
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.85
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.85
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.85
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.85
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.85
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.85
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.85
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.85
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.85
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.85
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.85
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.85
11995	Ethylbenzene	100-41-4	< 5	5	1	0.85
11995	Freon 113	76-13-1	< 10	10	2	0.85
11995	2-Hexanone	591-78-6	< 10	10	3	0.85
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.85
11995	Methyl Acetate	79-20-9	< 5	5	2	0.85
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.85
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.85
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.85
11995	Methylene Chloride	75-09-2	< 5	5	2	0.85
11995	Styrene	100-42-5	< 5	5	1	0.85
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.85
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.85
11995	Toluene	108-88-3	< 5	5	1	0.85
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.85
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.85
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.85
11995	Trichloroethene	79-01-6	< 5	5	1	0.85
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.85
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.85
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.85
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 960	960	190	5

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-2-4-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260173
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW324

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 960	960	190	5
10726	Acetophenone	98-86-2	< 1,900	1,900	940	5
10726	Anthracene	120-12-7	< 960	960	190	5
10726	Atrazine	1912-24-9	< 9,400	9,400	1,900	5
10726	Benzaldehyde	100-52-7	< 9,400	9,400	3,800	5
10726	Benzo(a)anthracene	56-55-3	1,200	960	190	5
10726	Benzo(a)pyrene	50-32-8	1,400	960	190	5
10726	Benzo(b)fluoranthene	205-99-2	2,200	960	190	5
10726	Benzo(g,h,i)perylene	191-24-2	1,600	960	190	5
10726	Benzo(k)fluoranthene	207-08-9	< 960	960	190	5
10726	1,1'-Biphenyl	92-52-4	< 1,900	1,900	940	5
10726	4-Bromophenyl-phenylether	101-55-3	< 1,900	1,900	940	5
10726	Butylbenzylphthalate	85-68-7	< 9,400	9,400	3,800	5
10726	Di-n-butylphthalate	84-74-2	< 9,400	9,400	3,800	5
10726	Caprolactam	105-60-2	< 9,400	9,400	1,900	5
10726	Carbazole	86-74-8	< 1,900	1,900	940	5
10726	4-Chloro-3-methylphenol	59-50-7	< 1,900	1,900	940	5
10726	4-Chloroaniline	106-47-8	< 3,800	3,800	1,900	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 1,900	1,900	940	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 1,900	1,900	940	5
10726	2-Chloronaphthalene	91-58-7	< 1,900	1,900	380	5
10726	2-Chlorophenol	95-57-8	< 1,900	1,900	940	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 1,900	1,900	940	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1,900	1,900	940	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,300	960	190	5
10726	Dibenz(a,h)anthracene	53-70-3	< 960	960	190	5
10726	Dibenzofuran	132-64-9	< 1,900	1,900	940	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 19,000	19,000	5,700	5
10726	2,4-Dichlorophenol	120-83-2	< 1,900	1,900	940	5
10726	Diethylphthalate	84-66-2	< 9,400	9,400	3,800	5
10726	2,4-Dimethylphenol	105-67-9	< 1,900	1,900	940	5
10726	Dimethylphthalate	131-11-3	< 9,400	9,400	3,800	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 28,000	28,000	9,400	5
10726	2,4-Dinitrophenol	51-28-5	< 57,000	57,000	17,000	5
10726	2,4-Dinitrotoluene	121-14-2	< 9,400	9,400	3,800	5
10726	2,6-Dinitrotoluene	606-20-2	< 1,900	1,900	940	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 9,600	9,600	3,800	5
10726	Fluoranthene	206-44-0	2,200	960	190	5
10726	Fluorene	86-73-7	< 960	960	190	5
10726	Hexachlorobenzene	118-74-1	< 960	960	190	5
10726	Hexachlorobutadiene	87-68-3	< 1,900	1,900	940	5
10726	Hexachlorocyclopentadiene	77-47-4	< 28,000	28,000	9,400	5
10726	Hexachloroethane	67-72-1	< 9,400	9,400	1,900	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,800	960	190	5
10726	Isophorone	78-59-1	< 1,900	1,900	940	5
10726	2-Methylnaphthalene	91-57-6	< 960	960	190	5
10726	2-Methylphenol	95-48-7	< 1,900	1,900	940	5

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-2-4-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260173
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW324

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 1,900	1,900	940	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 960	960	190	5
10726	2-Nitroaniline	88-74-4	< 1,900	1,900	940	5
10726	3-Nitroaniline	99-09-2	< 9,400	9,400	3,800	5
10726	4-Nitroaniline	100-01-6	< 9,400	9,400	3,800	5
10726	Nitrobenzene	98-95-3	< 1,900	1,900	940	5
10726	2-Nitrophenol	88-75-5	< 1,900	1,900	940	5
10726	4-Nitrophenol	100-02-7	< 28,000	28,000	9,400	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 1,900	1,900	940	5
10726	N-Nitrosodiphenylamine	86-30-6	< 1,900	1,900	940	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 9,400	9,400	3,800	5
10726	Pentachlorophenol	87-86-5	< 9,600	9,600	1,900	5
10726	Phenanthrene	85-01-8	1,600	960	190	5
10726	Phenol	108-95-2	< 1,900	1,900	940	5
10726	Pyrene	129-00-0	2,400	960	190	5
10726	2,4,5-Trichlorophenol	95-95-4	< 1,900	1,900	940	5
10726	2,4,6-Trichlorophenol	88-06-2	< 1,900	1,900	940	5
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	890	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,700	2,700	890	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	410	100

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-2-4-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260173
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW324

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 1,900	1,900	530	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	910	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	380	100
10885	PCB-1248	12672-29-6	22,000	1,900	380	100
10885	PCB-1254	11097-69-1	20,000	1,900	380	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	560	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	14,900	185	35.4	5
06946	Barium	7440-39-3	505	0.925	0.111	1
01650	Calcium	7440-70-2	19,700	37.0	3.08	1
06952	Cobalt	7440-48-4	21.1	4.62	0.375	5
06953	Copper	7440-50-8	655	9.25	1.48	5
01654	Iron	7439-89-6	156,000	370	30.8	10
06955	Lead	7439-92-1	2,450	13.9	1.90	5
01657	Magnesium	7439-95-4	3,740	18.5	1.54	1
06958	Manganese	7439-96-5	1,120	0.925	0.111	1
06961	Nickel	7440-02-0	191	1.85	0.213	1
01662	Potassium	7440-09-7	1,260	92.5	15.5	1
01667	Sodium	7440-23-5	224	185	15.4	1
06970	Titanium	7440-32-6	566	9.25	1.71	5
06971	Vanadium	7440-62-2	31.5	4.62	1.06	5
06972	Zinc	7440-66-6	8,680	74.0	14.2	20
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	29.3	0.370	0.0610	2
06125	Arsenic	7440-38-2	29.4	0.740	0.139	2
06127	Beryllium	7440-41-7	0.569	0.185	0.0131	2
06128	Cadmium	7440-43-9	61.4	0.185	0.0425	2
06131	Chromium	7440-47-3	203	0.740	0.0925	2
06141	Selenium	7782-49-2	0.752	0.740	0.0925	2
06142	Silver	7440-22-4	1.39	0.185	0.0185	2
06145	Thallium	7440-28-0	< 0.185	0.185	0.0277	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.96	1.09	0.0543	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-3-2-4-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260173
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW324

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160671AA	03/07/2016	18:01	Angela D Sneeringer	0.85
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016	09:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016	09:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016	09:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	14:35	Linda M Hartenstine	5
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016	08:17	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016	21:37	Jessica L Miller	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	08:54	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	22:24	Cindy M Gehman	5
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	21:06	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	21:06	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	22:24	Cindy M Gehman	5
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:36	Katlin N Cataldi	5
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	22:27	Cindy M Gehman	10
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	22:24	Cindy M Gehman	5
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	21:06	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	21:06	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	21:06	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	21:06	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:06	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	22:24	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	22:24	Cindy M Gehman	5
06972	Zinc	SW-846 6010C	1	160610637002	03/05/2016	09:39	Katlin N Cataldi	20
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	10:52	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	10:52	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	10:52	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	10:52	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	10:52	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	10:52	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-3-2-4-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260173
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:15 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW324

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 10:52	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 10:52	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:37	Damary Valentin	5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-12-14-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260174
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:47 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

M312-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 22	22	8	1.02
11995	Benzene	71-43-2	< 5	5	0.5	1.02
11995	Bromodichloromethane	75-27-4	< 5	5	1	1.02
11995	Bromoform	75-25-2	< 5	5	1	1.02
11995	Bromomethane	74-83-9	< 5	5	2	1.02
11995	2-Butanone	78-93-3	< 11	11	4	1.02
11995	Carbon Disulfide	75-15-0	< 5	5	1	1.02
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1.02
11995	Chlorobenzene	108-90-7	< 5	5	1	1.02
11995	Chloroethane	75-00-3	< 5	5	2	1.02
11995	Chloroform	67-66-3	< 5	5	1	1.02
11995	Chloromethane	74-87-3	< 5	5	2	1.02
11995	Cyclohexane	110-82-7	< 5	5	1	1.02
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1.02
11995	Dibromochloromethane	124-48-1	< 5	5	1	1.02
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1.02
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1.02
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1.02
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1.02
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1.02
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1.02
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1.02
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1.02
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1.02
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1.02
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1.02
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1.02
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1.02
11995	Ethylbenzene	100-41-4	< 5	5	1	1.02
11995	Freon 113	76-13-1	< 11	11	2	1.02
11995	2-Hexanone	591-78-6	< 11	11	3	1.02
11995	Isopropylbenzene	98-82-8	< 5	5	1	1.02
11995	Methyl Acetate	79-20-9	< 5	5	2	1.02
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1.02
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.02
11995	Methylcyclohexane	108-87-2	< 5	5	1	1.02
11995	Methylene Chloride	75-09-2	< 5	5	2	1.02
11995	Styrene	100-42-5	< 5	5	1	1.02
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1.02
11995	Tetrachloroethene	127-18-4	< 5	5	1	1.02
11995	Toluene	108-88-3	< 5	5	1	1.02
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1.02
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1.02
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1.02
11995	Trichloroethene	79-01-6	< 5	5	1	1.02
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1.02
11995	Vinyl Chloride	75-01-4	< 5	5	1	1.02
11995	Xylene (Total)	1330-20-7	< 5	5	1	1.02

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

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Former Cohn Property / Columbus, GA

LL Sample # SW 8260174
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:47 by TK

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M312-

the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	4	1
10726	Acenaphthylene	208-96-8	< 18	18	4	1
10726	Acetophenone	98-86-2	< 36	36	18	1
10726	Anthracene	120-12-7	< 18	18	4	1
10726	Atrazine	1912-24-9	< 180	180	36	1
10726	Benzaldehyde	100-52-7	< 180	180	71	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	4	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	4	1
10726	1,1'-Biphenyl	92-52-4	< 36	36	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 36	36	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	71	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	71	1
10726	Caprolactam	105-60-2	< 180	180	36	1
10726	Carbazole	86-74-8	< 36	36	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 36	36	18	1
10726	4-Chloroaniline	106-47-8	< 71	71	36	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 36	36	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 36	36	18	1
10726	2-Chloronaphthalene	91-58-7	< 35	35	7	1
10726	2-Chlorophenol	95-57-8	< 36	36	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 36	36	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 36	36	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	4	1
10726	Dibenzofuran	132-64-9	< 36	36	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 360	360	110	1
10726	2,4-Dichlorophenol	120-83-2	< 36	36	18	1
10726	Diethylphthalate	84-66-2	< 180	180	71	1
10726	2,4-Dimethylphenol	105-67-9	< 36	36	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	71	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 540	540	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	320	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	71	1
10726	2,6-Dinitrotoluene	606-20-2	< 36	36	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	71	1
10726	Fluoranthene	206-44-0	< 18	18	4	1
10726	Fluorene	86-73-7	< 18	18	4	1
10726	Hexachlorobenzene	118-74-1	< 18	18	4	1
10726	Hexachlorobutadiene	87-68-3	< 36	36	18	1

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Former Cohn Property / Columbus, GA

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LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:47 by TK

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorocyclopentadiene	77-47-4	< 540	540	180	1
10726	Hexachloroethane	67-72-1	< 180	180	36	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	4	1
10726	Isophorone	78-59-1	< 36	36	18	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	4	1
10726	2-Methylphenol	95-48-7	< 36	36	18	1
10726	4-Methylphenol	106-44-5	< 36	36	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	4	1
10726	2-Nitroaniline	88-74-4	< 36	36	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	71	1
10726	4-Nitroaniline	100-01-6	< 180	180	71	1
10726	Nitrobenzene	98-95-3	< 36	36	18	1
10726	2-Nitrophenol	88-75-5	< 36	36	18	1
10726	4-Nitrophenol	100-02-7	< 540	540	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 36	36	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 36	36	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	71	1
10726	Pentachlorophenol	87-86-5	< 180	180	36	1
10726	Phenanthrene	85-01-8	< 18	18	4	1
10726	Phenol	108-95-2	< 36	36	18	1
10726	Pyrene	129-00-0	< 18	18	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 36	36	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 36	36	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	820	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,500	2,500	820	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1

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Former Cohn Property / Columbus, GA

LL Sample # SW 8260174
LL Group # 1635185
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Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:47 by TK

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M312-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.9	1
10885	PCB-1221	11104-28-2	< 18	18	4.9	1
10885	PCB-1232	11141-16-5	< 18	18	8.6	1
10885	PCB-1242	53469-21-9	< 18	18	3.5	1
10885	PCB-1248	12672-29-6	< 18	18	3.5	1
10885	PCB-1254	11097-69-1	< 18	18	3.5	1
10885	PCB-1260	11096-82-5	< 18	18	5.3	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.4	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	8,100	36.8	7.04	1
06946	Barium	7440-39-3	35.8	0.919	0.110	1
01650	Calcium	7440-70-2	347	36.8	3.06	1
06952	Cobalt	7440-48-4	3.76	0.919	0.0744	1
06953	Copper	7440-50-8	11.5	1.84	0.294	1
01654	Iron	7439-89-6	9,270	36.8	3.06	1
06955	Lead	7439-92-1	4.00	2.76	0.377	1
01657	Magnesium	7439-95-4	1,320	18.4	1.53	1
06958	Manganese	7439-96-5	166	0.919	0.110	1
06961	Nickel	7440-02-0	3.50	1.84	0.211	1
01662	Potassium	7440-09-7	1,130	91.9	15.4	1
01667	Sodium	7440-23-5	< 184	184	15.3	1
06970	Titanium	7440-32-6	541	1.84	0.340	1
06971	Vanadium	7440-62-2	19.8	0.919	0.211	1
06972	Zinc	7440-66-6	15.8	3.68	0.708	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.368	0.368	0.0607	2
06125	Arsenic	7440-38-2	1.24	0.735	0.138	2
06127	Beryllium	7440-41-7	0.298	0.184	0.0131	2
06128	Cadmium	7440-43-9	< 0.184	0.184	0.0423	2
06131	Chromium	7440-47-3	9.35	0.735	0.0919	2
06141	Selenium	7782-49-2	< 0.735	0.735	0.0919	2
06142	Silver	7440-22-4	< 0.184	0.184	0.0184	2
06145	Thallium	7440-28-0	< 0.184	0.184	0.0276	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.211	0.211	0.0106	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	7.0	0.50	0.50	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-3-12-14-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260174
LL Group # 1635185
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160631AA	03/04/2016 02:58	Christopher G Torres	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016 09:47	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016 09:47	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016 09:47	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/06/2016 19:30	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016 08:54	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016 21:49	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016 09:12	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016 12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:36	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 21:16	Cindy M Gehman	1

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Analysis Report

Sample Description: MW-3-12-14-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260174
LL Group # 1635185
Account # 10302

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:16	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	21:16	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	21:16	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/05/2016	08:36	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:01	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:01	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:01	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:01	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:01	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:01	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:01	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016	11:01	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016	06:54	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016	07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016	12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016	19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260175
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

M302-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	23	17	6	0.73
11995	Benzene	71-43-2	< 4	4	0.4	0.73
11995	Bromodichloromethane	75-27-4	< 4	4	0.9	0.73
11995	Bromoform	75-25-2	< 4	4	0.9	0.73
11995	Bromomethane	74-83-9	< 4	4	2	0.73
11995	2-Butanone	78-93-3	< 9	9	3	0.73
11995	Carbon Disulfide	75-15-0	< 4	4	0.9	0.73
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.9	0.73
11995	Chlorobenzene	108-90-7	< 4	4	0.9	0.73
11995	Chloroethane	75-00-3	< 4	4	2	0.73
11995	Chloroform	67-66-3	< 4	4	0.9	0.73
11995	Chloromethane	74-87-3	< 4	4	2	0.73
11995	Cyclohexane	110-82-7	< 4	4	0.9	0.73
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.73
11995	Dibromochloromethane	124-48-1	< 4	4	0.9	0.73
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.9	0.73
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.9	0.73
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.9	0.73
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.9	0.73
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.73
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.9	0.73
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.9	0.73
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.9	0.73
11995	cis-1,2-Dichloroethene	156-59-2	< 4	4	0.9	0.73
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.9	0.73
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.9	0.73
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.9	0.73
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.9	0.73
11995	Ethylbenzene	100-41-4	< 4	4	0.9	0.73
11995	Freon 113	76-13-1	< 9	9	2	0.73
11995	2-Hexanone	591-78-6	< 9	9	3	0.73
11995	Isopropylbenzene	98-82-8	< 4	4	0.9	0.73
11995	Methyl Acetate	79-20-9	< 4	4	2	0.73
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 4	4	0.4	0.73
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.73
11995	Methylcyclohexane	108-87-2	< 4	4	0.9	0.73
11995	Methylene Chloride	75-09-2	< 4	4	2	0.73
11995	Styrene	100-42-5	< 4	4	0.9	0.73
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.9	0.73
11995	Tetrachloroethene	127-18-4	< 4	4	0.9	0.73
11995	Toluene	108-88-3	< 4	4	0.9	0.73
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.9	0.73
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.9	0.73
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.9	0.73
11995	Trichloroethene	79-01-6	< 4	4	0.9	0.73
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.73
11995	Vinyl Chloride	75-01-4	< 4	4	0.9	0.73
11995	Xylene (Total)	1330-20-7	< 4	4	0.9	0.73

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260175
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

M302-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
	Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 100	100	20	1
10726	Acenaphthylene	208-96-8	< 100	100	20	1
10726	Acetophenone	98-86-2	< 200	200	99	1
10726	Anthracene	120-12-7	< 100	100	20	1
10726	Atrazine	1912-24-9	< 990	990	200	1
10726	Benzaldehyde	100-52-7	< 990	990	400	1
10726	Benzo(a)anthracene	56-55-3	200	100	20	1
10726	Benzo(a)pyrene	50-32-8	360	100	20	1
10726	Benzo(b)fluoranthene	205-99-2	490	100	20	1
10726	Benzo(g,h,i)perylene	191-24-2	300	100	20	1
10726	Benzo(k)fluoranthene	207-08-9	190	100	20	1
10726	1,1'-Biphenyl	92-52-4	< 200	200	99	1
10726	4-Bromophenyl-phenylether	101-55-3	< 200	200	99	1
10726	Butylbenzylphthalate	85-68-7	< 990	990	400	1
10726	Di-n-butylphthalate	84-74-2	< 990	990	400	1
10726	Caprolactam	105-60-2	< 990	990	200	1
10726	Carbazole	86-74-8	< 200	200	99	1
10726	4-Chloro-3-methylphenol	59-50-7	< 200	200	99	1
10726	4-Chloroaniline	106-47-8	< 400	400	200	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 200	200	99	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 200	200	99	1
10726	2-Chloronaphthalene	91-58-7	< 200	200	40	1
10726	2-Chlorophenol	95-57-8	< 200	200	99	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 200	200	99	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 200	200	99	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	310	100	20	1
10726	Dibenz(a,h)anthracene	53-70-3	140	100	20	1
10726	Dibenzofuran	132-64-9	< 200	200	99	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 2,000	2,000	590	1
10726	2,4-Dichlorophenol	120-83-2	< 200	200	99	1
10726	Diethylphthalate	84-66-2	< 990	990	400	1
10726	2,4-Dimethylphenol	105-67-9	< 200	200	99	1
10726	Dimethylphthalate	131-11-3	< 990	990	400	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 3,000	3,000	990	1
10726	2,4-Dinitrophenol	51-28-5	< 5,900	5,900	1,800	1
10726	2,4-Dinitrotoluene	121-14-2	< 990	990	400	1
10726	2,6-Dinitrotoluene	606-20-2	< 200	200	99	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 1,000	1,000	400	1
10726	Fluoranthene	206-44-0	360	100	20	1
10726	Fluorene	86-73-7	< 100	100	20	1
10726	Hexachlorobenzene	118-74-1	< 100	100	20	1
10726	Hexachlorobutadiene	87-68-3	< 200	200	99	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260175
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

M302-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorocyclopentadiene	77-47-4	< 3,000	3,000	990	1
10726	Hexachloroethane	67-72-1	< 990	990	200	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	270	100	20	1
10726	Isophorone	78-59-1	< 200	200	99	1
10726	2-Methylnaphthalene	91-57-6	< 100	100	20	1
10726	2-Methylphenol	95-48-7	< 200	200	99	1
10726	4-Methylphenol	106-44-5	< 200	200	99	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 100	100	20	1
10726	2-Nitroaniline	88-74-4	< 200	200	99	1
10726	3-Nitroaniline	99-09-2	< 990	990	400	1
10726	4-Nitroaniline	100-01-6	< 990	990	400	1
10726	Nitrobenzene	98-95-3	< 200	200	99	1
10726	2-Nitrophenol	88-75-5	< 200	200	99	1
10726	4-Nitrophenol	100-02-7	< 3,000	3,000	990	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 200	200	99	1
10726	N-Nitrosodiphenylamine	86-30-6	< 200	200	99	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 990	990	400	1
10726	Pentachlorophenol	87-86-5	< 1,000	1,000	200	1
10726	Phenanthrene	85-01-8	180	100	20	1
10726	Phenol	108-95-2	< 200	200	99	1
10726	Pyrene	129-00-0	420	100	20	1
10726	2,4,5-Trichlorophenol	95-95-4	< 200	200	99	1
10726	2,4,6-Trichlorophenol	88-06-2	< 200	200	99	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	46	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	46	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 350	350	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 350	350	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	46	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	46	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	46	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	46	1
13413	HMX	2691-41-0	< 350	350	120	1
13413	Nitrobenzene	98-95-3	< 350	350	120	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	930	1
13413	2-Nitrotoluene	88-72-2	< 140	140	46	1
13413	3-Nitrotoluene	99-08-1	< 140	140	46	1
13413	4-Nitrotoluene	99-99-0	< 140	140	46	1
13413	PETN	78-11-5	< 2,800	2,800	930	1
13413	RDX	121-82-4	< 140	140	46	1
13413	Tetryl	479-45-8	< 350	350	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	46	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260175
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

M302-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	46	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 200	200	43	10
10885	PCB-1221	11104-28-2	< 200	200	54	10
10885	PCB-1232	11141-16-5	< 200	200	95	10
10885	PCB-1242	53469-21-9	790	200	39	10
10885	PCB-1248	12672-29-6	< 200	200	39	10
10885	PCB-1254	11097-69-1	1,800	200	39	10
10885	PCB-1260	11096-82-5	< 200	200	58	10
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.0	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	17,700	36.6	7.00	1
06946	Barium	7440-39-3	276	0.914	0.110	1
01650	Calcium	7440-70-2	5,350	36.6	3.04	1
06952	Cobalt	7440-48-4	8.53	0.914	0.0741	1
06953	Copper	7440-50-8	1,160	9.14	1.46	5
01654	Iron	7439-89-6	42,900	183	15.2	5
06955	Lead	7439-92-1	279	2.74	0.375	1
01657	Magnesium	7439-95-4	1,740	18.3	1.53	1
06958	Manganese	7439-96-5	383	0.914	0.110	1
06961	Nickel	7440-02-0	44.7	1.83	0.210	1
01662	Potassium	7440-09-7	1,310	91.4	15.4	1
01667	Sodium	7440-23-5	< 183	183	15.3	1
06970	Titanium	7440-32-6	403	1.83	0.338	1
06971	Vanadium	7440-62-2	37.2	0.914	0.210	1
06972	Zinc	7440-66-6	657	3.66	0.704	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	3.80	0.366	0.0603	2
06125	Arsenic	7440-38-2	8.05	0.731	0.137	2
06127	Beryllium	7440-41-7	0.505	0.183	0.0130	2
06128	Cadmium	7440-43-9	1.86	0.183	0.0421	2
06131	Chromium	7440-47-3	70.4	0.731	0.0914	2
06141	Selenium	7782-49-2	< 0.731	0.731	0.0914	2
06142	Silver	7440-22-4	0.718	0.183	0.0183	2
06145	Thallium	7440-28-0	< 0.914	0.914	0.137	10
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.376	0.233	0.0117	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-3-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260175
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

M302-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	16.5	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160631AA	03/04/2016 03:20	Christopher G Torres	0.73
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016 09:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016 09:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016 09:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016 14:58	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016 09:31	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016 22:00	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016 09:30	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016 12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 09:42	Katlin N Cataldi	5
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 23:17	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-3-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260175
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 09:00 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

M302-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 21:20	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 11:04	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 11:04	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 11:04	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 11:04	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 11:04	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 11:04	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 11:04	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/09/2016 14:17	Deborah A Krady	10
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:00	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-022416 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260176
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 17:20

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

TB224

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 20	20	7	1
11995	Benzene	71-43-2	< 5	5	0.5	1
11995	Bromodichloromethane	75-27-4	< 5	5	1	1
11995	Bromoform	75-25-2	< 5	5	1	1
11995	Bromomethane	74-83-9	< 5	5	2	1
11995	2-Butanone	78-93-3	< 10	10	4	1
11995	Carbon Disulfide	75-15-0	< 5	5	1	1
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1
11995	Chlorobenzene	108-90-7	< 5	5	1	1
11995	Chloroethane	75-00-3	< 5	5	2	1
11995	Chloroform	67-66-3	< 5	5	1	1
11995	Chloromethane	74-87-3	< 5	5	2	1
11995	Cyclohexane	110-82-7	< 5	5	1	1
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11995	Dibromochloromethane	124-48-1	< 5	5	1	1
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1
11995	Ethylbenzene	100-41-4	< 5	5	1	1
11995	Freon 113	76-13-1	< 10	10	2	1
11995	2-Hexanone	591-78-6	< 10	10	3	1
11995	Isopropylbenzene	98-82-8	< 5	5	1	1
11995	Methyl Acetate	79-20-9	< 5	5	2	1
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11995	Methylcyclohexane	108-87-2	< 5	5	1	1
11995	Methylene Chloride	75-09-2	< 5	5	2	1
11995	Styrene	100-42-5	< 5	5	1	1
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1
11995	Tetrachloroethene	127-18-4	< 5	5	1	1
11995	Toluene	108-88-3	< 5	5	1	1
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1
11995	Trichloroethene	79-01-6	< 5	5	1	1
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1
11995	Vinyl Chloride	75-01-4	< 5	5	1	1
11995	Xylene (Total)	1330-20-7	< 5	5	1	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: Trip_Blank-022416 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260176
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 17:20

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

TB224

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor

the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160631AA	03/03/2016 22:27	Christopher G Torres	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016 17:20	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-07-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260177
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 14:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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Atlanta GA 30309

S0702

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 19	19	7	0.86
11995	Benzene	71-43-2	< 5	5	0.5	0.86
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.86
11995	Bromoform	75-25-2	< 5	5	1	0.86
11995	Bromomethane	74-83-9	< 5	5	2	0.86
11995	2-Butanone	78-93-3	< 10	10	4	0.86
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.86
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.86
11995	Chlorobenzene	108-90-7	< 5	5	1	0.86
11995	Chloroethane	75-00-3	< 5	5	2	0.86
11995	Chloroform	67-66-3	< 5	5	1	0.86
11995	Chloromethane	74-87-3	< 5	5	2	0.86
11995	Cyclohexane	110-82-7	< 5	5	1	0.86
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.86
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.86
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.86
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.86
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.86
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.86
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.86
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.86
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.86
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.86
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.86
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.86
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.86
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.86
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.86
11995	Ethylbenzene	100-41-4	< 5	5	1	0.86
11995	Freon 113	76-13-1	< 10	10	2	0.86
11995	2-Hexanone	591-78-6	< 10	10	3	0.86
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.86
11995	Methyl Acetate	79-20-9	< 5	5	2	0.86
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.86
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.86
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.86
11995	Methylene Chloride	75-09-2	< 5	5	2	0.86
11995	Styrene	100-42-5	< 5	5	1	0.86
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.86
11995	Tetrachloroethene	127-18-4	38,000	2,500	500	448.97
11995	Toluene	108-88-3	< 5	5	1	0.86
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.86
11995	1,1,1-Trichloroethane	71-55-6	13	5	1	0.86
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.86
11995	Trichloroethene	79-01-6	30	5	1	0.86
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.86
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.86
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.86
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-07-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260177
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 14:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S0702

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 37	37	18	1
10726	Anthracene	120-12-7	28	19	4	1
10726	Atrazine	1912-24-9	< 180	180	37	1
10726	Benzaldehyde	100-52-7	< 180	180	73	1
10726	Benzo(a)anthracene	56-55-3	110	19	4	1
10726	Benzo(a)pyrene	50-32-8	160	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	240	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	170	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	98	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	73	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	73	1
10726	Caprolactam	105-60-2	< 180	180	37	1
10726	Carbazole	86-74-8	< 37	37	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	18	1
10726	4-Chloroaniline	106-47-8	< 73	73	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	18	1
10726	2-Chloronaphthalene	91-58-7	< 36	36	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	200	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	79	19	4	1
10726	Dibenzofuran	132-64-9	83	37	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	18	1
10726	Diethylphthalate	84-66-2	< 180	180	73	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	73	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 550	550	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	330	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	73	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	73	1
10726	Fluoranthene	206-44-0	130	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 550	550	180	1
10726	Hexachloroethane	67-72-1	< 180	180	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	110	19	4	1
10726	Isophorone	78-59-1	< 37	37	18	1
10726	2-Methylnaphthalene	91-57-6	310	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	18	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-07-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260177
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 14:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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Atlanta GA 30309

S0702

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 37	37	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	250	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	73	1
10726	4-Nitroaniline	100-01-6	< 180	180	73	1
10726	Nitrobenzene	98-95-3	< 37	37	18	1
10726	2-Nitrophenol	88-75-5	< 37	37	18	1
10726	4-Nitrophenol	100-02-7	< 550	550	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	73	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	240	19	4	1
10726	Phenol	108-95-2	< 37	37	18	1
10726	Pyrene	129-00-0	160	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	18	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 94	94	20	5
10885	PCB-1221	11104-28-2	< 94	94	25	5
10885	PCB-1232	11141-16-5	< 94	94	44	5
10885	PCB-1242	53469-21-9	< 94	94	18	5
10885	PCB-1248	12672-29-6	< 94	94	18	5
10885	PCB-1254	11097-69-1	970	94	18	5
10885	PCB-1260	11096-82-5	< 94	94	27	5
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	15,700	35.3	6.75	1
06946	Barium	7440-39-3	153	0.882	0.106	1
01650	Calcium	7440-70-2	1,950	35.3	2.94	1
06952	Cobalt	7440-48-4	10.1	0.882	0.0714	1
06953	Copper	7440-50-8	99.0	1.76	0.282	1
01654	Iron	7439-89-6	29,600	176	14.7	5
06955	Lead	7439-92-1	177	2.65	0.362	1
01657	Magnesium	7439-95-4	3,550	17.6	1.47	1
06958	Manganese	7439-96-5	574	0.882	0.106	1
06961	Nickel	7440-02-0	13.6	1.76	0.203	1
01662	Potassium	7440-09-7	3,480	88.2	14.8	1
01667	Sodium	7440-23-5	< 176	176	14.7	1

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-07-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260177
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 14:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S0702

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06970	Titanium		7440-32-6	1,070	8.82	1.63	5
06971	Vanadium		7440-62-2	41.9	0.882	0.203	1
06972	Zinc		7440-66-6	132	3.53	0.679	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	1.90	0.353	0.0582	2
06125	Arsenic		7440-38-2	9.85	0.705	0.132	2
06127	Beryllium		7440-41-7	0.681	0.176	0.0125	2
06128	Cadmium		7440-43-9	0.443	0.176	0.0406	2
06131	Chromium		7440-47-3	29.7	0.705	0.0882	2
06141	Selenium		7782-49-2	< 0.705	0.705	0.0882	2
06142	Silver		7440-22-4	0.258	0.176	0.0176	2
06145	Thallium		7440-28-0	0.299	0.176	0.0265	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	< 0.218	0.218	0.0109	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	10.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160671AA	03/07/2016 20:16	Angela D Sneeringer	0.86
11995	8260C Soil Master	SW-846 8260C	1	R160681AA	03/09/2016 02:06	Kevin A Sposito	448.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/24/2016 14:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/24/2016 14:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/24/2016 14:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016 15:21	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-07-0-2-022416 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260177
LL Group # 1635185
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/24/2016 14:30 by TK

Submitted: 02/25/2016 09:50
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S0702

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016	22:12	Jessica L Miller	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630032A	03/05/2016	09:47	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630032A	03/04/2016	12:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:45	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	23:20	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	23:20	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016	21:23	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:07	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:07	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:07	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:07	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:07	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:07	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:07	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016	11:07	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016	07:02	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016	07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016	12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820003B	03/02/2016	17:47	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: A160631AA	Sample number(s): 8260167,8260169-8260171,8260174-8260176		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: A160671AA	Sample number(s): 8260173,8260177		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Batch number: R160621AA	Sample number(s): 8260166,8260168,8260172		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
Batch number: R160681AA	Sample number(s): 8260165,8260177		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
Batch number: 16062SLI026	Sample number(s): 8260165-8260171		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 16064SLB026	Sample number(s): 8260172,8260174		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 16068SLD026	Sample number(s): 8260173,8260175,8260177		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 160620006A	Sample number(s): 8260172-8260175		
4-Amino-2,6-Dinitrotoluene	< 120	120	40
2-Amino-4,6-Dinitrotoluene	< 120	120	40
2,6-Diamino-4-nitrotoluene	< 300	300	100
2,4-Diamino-6-nitrotoluene	< 300	300	100
3,5-Dinitroaniline	< 120	120	40
1,3-Dinitrobenzene	< 120	120	40
2,4-Dinitrotoluene	< 120	120	40
2,6-Dinitrotoluene	< 120	120	40
HMX	< 300	300	100
Nitrobenzene	< 300	300	100
Nitroglycerin	< 2,400	2,400	800
2-Nitrotoluene	< 120	120	40
3-Nitrotoluene	< 120	120	40
4-Nitrotoluene	< 120	120	40
PETN	< 2,400	2,400	800
RDX	< 120	120	40
Tetryl	< 300	300	100
1,3,5-Trinitrobenzene	< 120	120	40
2,4,6-Trinitrotoluene	< 120	120	40
Batch number: 160610026A	Sample number(s): 8260165-8260175,8260177		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	mg/kg	mg/kg	mg/kg
Batch number: 160630032A	Sample number(s): 8260165-8260175,8260177		
Ethylene glycol	< 10	10	5.0
Batch number: 160610637001	Sample number(s): 8260165-8260171		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160610637001A	Sample number(s): 8260165-8260171		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160610637001B	Sample number(s): 8260165-8260171		
Selenium	< 0.800	0.800	0.100
Batch number: 160610637002	Sample number(s): 8260172-8260175,8260177		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160610637002A	Sample number(s): 8260172-8260175,8260177		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Result mg/kg	LOQ** mg/kg	MDL mg/kg
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160610637002B	Sample number(s): 8260172-8260175,8260177		
Selenium	< 0.800	0.800	0.100
Batch number: 160610638001	Sample number(s): 8260165-8260171		
Mercury	< 0.200	0.200	0.0100
Batch number: 160610638002	Sample number(s): 8260172-8260175,8260177		
Mercury	< 0.200	0.200	0.0100

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A160631AA	Sample number(s): 8260167,8260169-8260171,8260174-8260176								
Acetone	150	130	150	130.59	87	87	46-139	0	30
Benzene	20	21.27	20	20.57	106	103	80-120	3	30
Bromodichloromethane	20	20.9	20	20.46	104	102	75-120	2	30
Bromoform	20	19.27	20	19.09	96	95	64-120	1	30
Bromomethane	20	19.07	20	18.31	95	92	16-200	4	30
2-Butanone	150	82.78	150	83.16	55	55	54-129	0	30
Carbon Disulfide	20	20.34	20	19.69	102	98	60-120	3	30
Carbon Tetrachloride	20	24.74	20	23.56	124	118	69-130	5	30
Chlorobenzene	20	21.25	20	20.7	106	103	80-120	3	30
Chloroethane	20	18.05	20	17.55	90	88	11-200	3	30
Chloroform	20	22.25	20	22.03	111	110	80-120	1	30
Chloromethane	20	15.69	20	15.59	78	78	56-120	1	30
Cyclohexane	20	16.39	20	15.88	82	79	58-120	3	30
1,2-Dibromo-3-chloropropane	20	17.07	20	16.88	85	84	54-120	1	30
Dibromochloromethane	20	20.35	20	20.13	102	101	77-120	1	30
1,2-Dibromoethane	20	20.57	20	20.55	103	103	80-120	0	30
1,2-Dichlorobenzene	20	20.59	20	20.02	103	100	80-120	3	30
1,3-Dichlorobenzene	20	20.35	20	19.69	102	98	80-120	3	30
1,4-Dichlorobenzene	20	20.24	20	19.75	101	99	80-120	2	30
Dichlorodifluoromethane	20	17.51	20	16.75	88	84	28-131	4	30
1,1-Dichloroethane	20	20.38	20	19.69	102	98	77-120	3	30
1,2-Dichloroethane	20	21.8	20	21.53	109	108	77-130	1	30
1,1-Dichloroethene	20	22.95	20	22.23	115	111	73-129	3	30
cis-1,2-Dichloroethene	20	22.49	20	21.56	112	108	80-120	4	30
trans-1,2-Dichloroethene	20	23.73	20	22.72	119	114	80-125	4	30
1,2-Dichloropropane	20	19.63	20	19.29	98	96	76-120	2	30
cis-1,3-Dichloropropene	20	18.61	20	18.36	93	92	74-120	1	30
trans-1,3-Dichloropropene	20	19.25	20	19.02	96	95	76-120	1	30
Ethylbenzene	20	20.01	20	19.62	100	98	80-120	2	30
Freon 113	20	21.43	20	21.18	107	106	57-141	1	30
2-Hexanone	100	65.14	100	65.64	65	66	39-120	1	30
Isopropylbenzene	20	19.84	20	19.52	99	98	70-120	2	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methyl Acetate	20	18.2	20	17.58	91	88	52-146	3	30
Methyl Tertiary Butyl Ether	20	20.15	20	20.39	101	102	72-120	1	30
4-Methyl-2-pentanone	100	69.64	100	69.28	70	69	50-120	1	30
Methylcyclohexane	20	18.14	20	17.61	91	88	52-128	3	30
Methylene Chloride	20	23.13	20	22.64	116	113	76-122	2	30
Styrene	20	20.01	20	19.42	100	97	76-120	3	30
1,1,2,2-Tetrachloroethane	20	18.16	20	18.2	91	91	67-121	0	30
Tetrachloroethene	20	21.83	20	21.57	109	108	78-120	1	30
Toluene	20	20.46	20	19.96	102	100	80-120	2	30
1,2,4-Trichlorobenzene	20	16.92	20	16.38	85	82	55-120	3	30
1,1,1-Trichloroethane	20	21.34	20	20.5	107	102	66-128	4	30
1,1,2-Trichloroethane	20	19.91	20	19.74	100	99	80-120	1	30
Trichloroethene	20	22.97	20	21.99	115	110	80-120	4	30
Trichlorofluoromethane	20	21.91	20	21.07	110	105	54-140	4	30
Vinyl Chloride	20	17.65	20	17.07	88	85	59-120	3	30
Xylene (Total)	60	60.82	60	59.87	101	100	80-120	2	30
Batch number: A160671AA	Sample number(s): 8260173,8260177								
Acetone	150	136.86	150	129.51	91	86	46-139	6	30
Benzene	20	18.97	20	18.61	95	93	80-120	2	30
Bromodichloromethane	20	17.48	20	17.54	87	88	75-120	0	30
Bromoform	20	15.72	20	16.29	79	81	64-120	4	30
Bromomethane	20	15.47	20	15.29	77	76	16-200	1	30
2-Butanone	150	137.75	150	133.89	92	89	54-129	3	30
Carbon Disulfide	20	18.1	20	17.81	90	89	60-120	2	30
Carbon Tetrachloride	20	19.11	20	18.77	96	94	69-130	2	30
Chlorobenzene	20	18.11	20	18.05	91	90	80-120	0	30
Chloroethane	20	14.81	20	14.78	74	74	11-200	0	30
Chloroform	20	18.76	20	18.54	94	93	80-120	1	30
Chloromethane	20	14.23	20	13.98	71	70	56-120	2	30
Cyclohexane	20	19.54	20	19.5	98	97	58-120	0	30
1,2-Dibromo-3-chloropropane	20	14.88	20	16.68	74	83	54-120	11	30
Dibromochloromethane	20	17.01	20	17.17	85	86	77-120	1	30
1,2-Dibromoethane	20	17.6	20	17.88	88	89	80-120	2	30
1,2-Dichlorobenzene	20	17.96	20	17.87	90	89	80-120	1	30
1,3-Dichlorobenzene	20	18.13	20	17.67	91	88	80-120	3	30
1,4-Dichlorobenzene	20	17.75	20	17.7	89	89	80-120	0	30
Dichlorodifluoromethane	20	13.6	20	13.26	68	66	28-131	3	30
1,1-Dichloroethane	20	18.42	20	18.5	92	92	77-120	0	30
1,2-Dichloroethane	20	18	20	18.16	90	91	77-130	1	30
1,1-Dichloroethene	20	19.42	20	18.87	97	94	73-129	3	30
cis-1,2-Dichloroethene	20	19.47	20	19.44	97	97	80-120	0	30
trans-1,2-Dichloroethene	20	19.36	20	19.27	97	96	80-125	0	30
1,2-Dichloropropane	20	18.95	20	18.97	95	95	76-120	0	30
cis-1,3-Dichloropropene	20	17.59	20	17.89	88	89	74-120	2	30
trans-1,3-Dichloropropene	20	17.88	20	18.41	89	92	76-120	3	30
Ethylbenzene	20	18.87	20	18.83	94	94	80-120	0	30
Freon 113	20	19.71	20	19.26	99	96	57-141	2	30
2-Hexanone	100	72.17	100	83.97	72	84	39-120	15	30
Isopropylbenzene	20	19.52	20	19.44	98	97	70-120	0	30
Methyl Acetate	20	16.93	20	18.52	85	93	52-146	9	30
Methyl Tertiary Butyl Ether	20	18.46	20	19.36	92	97	72-120	5	30
4-Methyl-2-pentanone	100	75.68	100	84.48	76	84	50-120	11	30
Methylcyclohexane	20	20.45	20	20.26	102	101	52-128	1	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methylene Chloride	20	18.58	20	18.33	93	92	76-122	1	30
Styrene	20	19.15	20	18.9	96	95	76-120	1	30
1,1,2,2-Tetrachloroethane	20	16.35	20	17.42	82	87	67-121	6	30
Tetrachloroethene	20	18.93	20	18.9	95	95	78-120	0	30
Toluene	20	18.58	20	18.47	93	92	80-120	1	30
1,2,4-Trichlorobenzene	20	17.56	20	17.66	88	88	55-120	1	30
1,1,1-Trichloroethane	20	18.15	20	18.05	91	90	66-128	1	30
1,1,2-Trichloroethane	20	17.01	20	17.52	85	88	80-120	3	30
Trichloroethene	20	18.92	20	18.68	95	93	80-120	1	30
Trichlorofluoromethane	20	17.22	20	17.03	86	85	54-140	1	30
Vinyl Chloride	20	15.43	20	14.9	77	75	59-120	3	30
Xylene (Total)	60	57.09	60	56.25	95	94	80-120	1	30
Batch number: R160621AA	Sample number(s): 8260166,8260168,8260172								
Acetone	7500	5884.62	7500	6400.79	78	85	46-139	8	30
Benzene	1000	958.42	1000	1013.67	96	101	80-120	6	30
Bromodichloromethane	1000	933.44	1000	981.78	93	98	75-120	5	30
Bromoform	1000	966.71	1000	1015.78	97	102	64-120	5	30
Bromomethane	1000	863.59	1000	938.51	86	94	16-200	8	30
2-Butanone	7500	6714.92	7500	7367.85	90	98	54-129	9	30
Carbon Disulfide	1000	1013.78	1000	1113.78	101	111	60-120	9	30
Carbon Tetrachloride	1000	948.08	1000	987.89	95	99	69-130	4	30
Chlorobenzene	1000	930.58	1000	968.72	93	97	80-120	4	30
Chloroethane	1000	832.18	1000	885.73	83	89	11-200	6	30
Chloroform	1000	959.17	1000	1006.85	96	101	80-120	5	30
Chloromethane	1000	783.29	1000	830.32	78	83	56-120	6	30
Cyclohexane	1000	854.4	1000	865.28	85	87	58-120	1	30
1,2-Dibromo-3-chloropropane	1000	836.86	1000	868.87	84	87	54-120	4	30
Dibromochloromethane	1000	974.91	1000	1033.12	97	103	77-120	6	30
1,2-Dibromoethane	1000	992.22	1000	1058	99	106	80-120	6	30
1,2-Dichlorobenzene	1000	989.92	1000	1016.3	99	102	80-120	3	30
1,3-Dichlorobenzene	1000	999.05	1000	1033.4	100	103	80-120	3	30
1,4-Dichlorobenzene	1000	973.61	1000	1017.84	97	102	80-120	4	30
Dichlorodifluoromethane	1000	550.04	1000	566.19	55	57	28-131	3	30
1,1-Dichloroethane	1000	959.1	1000	997.44	96	100	77-120	4	30
1,2-Dichloroethane	1000	965.02	1000	1014.21	97	101	77-130	5	30
1,1-Dichloroethene	1000	1000.04	1000	1049.91	100	105	73-129	5	30
cis-1,2-Dichloroethene	1000	989.31	1000	1049.66	99	105	80-120	6	30
trans-1,2-Dichloroethene	1000	1031.43	1000	1057.97	103	106	80-125	3	30
1,2-Dichloropropane	1000	970.39	1000	1037.85	97	104	76-120	7	30
cis-1,3-Dichloropropene	1000	979.87	1000	1031.08	98	103	74-120	5	30
trans-1,3-Dichloropropene	1000	1012.19	1000	1077.68	101	108	76-120	6	30
Ethylbenzene	1000	922.73	1000	972.84	92	97	80-120	5	30
Freon 113	1000	847.94	1000	864.08	85	86	57-141	2	30
2-Hexanone	5000	4966.54	5000	5118.84	99	102	39-120	3	30
Isopropylbenzene	1000	941.68	1000	987.55	94	99	70-120	5	30
Methyl Acetate	1000	943.42	1000	970.11	94	97	52-146	3	30
Methyl Tertiary Butyl Ether	1000	963.89	1000	1009.83	96	101	72-120	5	30
4-Methyl-2-pentanone	5000	4906.08	5000	5166.51	98	103	50-120	5	30
Methylcyclohexane	1000	820.65	1000	832.48	82	83	52-128	1	30
Methylene Chloride	1000	1022.59	1000	1084.7	102	108	76-122	6	30
Styrene	1000	900.61	1000	957.4	90	96	76-120	6	30
1,1,2,2-Tetrachloroethane	1000	930.46	1000	989.43	93	99	67-121	6	30
Tetrachloroethene	1000	990.49	1000	1029.78	99	103	78-120	4	30

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Toluene	1000	975.33	1000	1045.31	98	105	80-120	7	30
1,2,4-Trichlorobenzene	1000	1106.06	1000	1048.3	111	105	55-120	5	30
1,1,1-Trichloroethane	1000	923.87	1000	963.51	92	96	66-128	4	30
1,1,2-Trichloroethane	1000	964.15	1000	1016.28	96	102	80-120	5	30
Trichloroethene	1000	973.84	1000	1024.39	97	102	80-120	5	30
Trichlorofluoromethane	1000	880.49	1000	888.73	88	89	54-140	1	30
Vinyl Chloride	1000	807.41	1000	850.93	81	85	59-120	5	30
Xylene (Total)	3000	2839.23	3000	2970.45	95	99	80-120	5	30
Batch number: R160681AA	Sample number(s): 8260165,8260177								
Acetone	7500	6762.91	7500	6656.77	90	89	46-139	2	30
Benzene	1000	1001.18	1000	956.64	100	96	80-120	5	30
Bromodichloromethane	1000	957.87	1000	927.96	96	93	75-120	3	30
Bromoform	1000	878.84	1000	825.69	88	83	64-120	6	30
Bromomethane	1000	852.57	1000	806.42	85	81	16-200	6	30
2-Butanone	7500	7163.65	7500	6472.87	96	86	54-129	10	30
Carbon Disulfide	1000	1024.33	1000	1093.71	102	109	60-120	7	30
Carbon Tetrachloride	1000	1011.41	1000	996.74	101	100	69-130	1	30
Chlorobenzene	1000	924.43	1000	914.55	92	91	80-120	1	30
Chloroethane	1000	910.07	1000	838.87	91	84	11-200	8	30
Chloroform	1000	975.71	1000	923.72	98	92	80-120	5	30
Chloromethane	1000	903.5	1000	933.33	90	93	56-120	3	30
Cyclohexane	1000	1191.95	1000	1151.59	119	115	58-120	3	30
1,2-Dibromo-3-chloropropane	1000	872.17	1000	827.46	87	83	54-120	5	30
Dibromochloromethane	1000	911.21	1000	879.85	91	88	77-120	4	30
1,2-Dibromoethane	1000	957.06	1000	940.04	96	94	80-120	2	30
1,2-Dichlorobenzene	1000	880.19	1000	862.5	88	86	80-120	2	30
1,3-Dichlorobenzene	1000	872.69	1000	882.72	87	88	80-120	1	30
1,4-Dichlorobenzene	1000	884.95	1000	884.51	88	88	80-120	0	30
Dichlorodifluoromethane	1000	1000.51	1000	1060.71	100	106	28-131	6	30
1,1-Dichloroethane	1000	986.64	1000	940.97	99	94	77-120	5	30
1,2-Dichloroethane	1000	964.94	1000	931.79	96	93	77-130	3	30
1,1-Dichloroethene	1000	1025.75	1000	1075.6	103	108	73-129	5	30
cis-1,2-Dichloroethene	1000	996.98	1000	955.3	100	96	80-120	4	30
trans-1,2-Dichloroethene	1000	1025.94	1000	1056.89	103	106	80-125	3	30
1,2-Dichloropropane	1000	993.33	1000	965.93	99	97	76-120	3	30
cis-1,3-Dichloropropene	1000	958.24	1000	978.63	96	98	74-120	2	30
trans-1,3-Dichloropropene	1000	994.86	1000	947.42	99	95	76-120	5	30
Ethylbenzene	1000	949.1	1000	946.16	95	95	80-120	0	30
Freon 113	1000	1245.03	1000	1296.28	125	130	57-141	4	30
2-Hexanone	5000	5343.44	5000	5233.73	107	105	39-120	2	30
Isopropylbenzene	1000	977	1000	937.17	98	94	70-120	4	30
Methyl Acetate	1000	867.58	1000	894.85	87	89	52-146	3	30
Methyl Tertiary Butyl Ether	1000	922.28	1000	959.35	92	96	72-120	4	30
4-Methyl-2-pentanone	5000	5085.53	5000	5232.23	102	105	50-120	3	30
Methylcyclohexane	1000	1202.18	1000	1152.46	120	115	52-128	4	30
Methylene Chloride	1000	888.98	1000	889.67	89	89	76-122	0	30
Styrene	1000	919.11	1000	891.94	92	89	76-120	3	30
1,1,2,2-Tetrachloroethane	1000	924.01	1000	912.9	92	91	67-121	1	30
Tetrachloroethene	1000	960.29	1000	931.41	96	93	78-120	3	30
Toluene	1000	1054.74	1000	991.32	105	99	80-120	6	30
1,2,4-Trichlorobenzene	1000	800.87	1000	835.19	80	84	55-120	4	30
1,1,1-Trichloroethane	1000	964.94	1000	947.42	96	95	66-128	2	30
1,1,2-Trichloroethane	1000	908.06	1000	922.24	91	92	80-120	2	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Trichloroethene	1000	978.58	1000	986.69	98	99	80-120	1	30
Trichlorofluoromethane	1000	1020.68	1000	1024.25	102	102	54-140	0	30
Vinyl Chloride	1000	979.62	1000	966.12	98	97	59-120	1	30
Xylene (Total)	3000	2880.12	3000	2791.93	96	93	80-120	3	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16062SLI026	Sample number(s): 8260165-8260171								
Acenaphthene	833.33	903.57			108		83-116		
Acenaphthylene	833.33	925.66			111		83-119		
Acetophenone	833.33	851.47			102		74-116		
Anthracene	833.33	918.53			110		82-118		
Atrazine	416.67	385.28			92		62-143		
Benzaldehyde	833.33	254.84			31		10-93		
Benzo(a)anthracene	833.33	873.15			105		76-119		
Benzo(a)pyrene	833.33	903.07			108		85-117		
Benzo(b)fluoranthene	833.33	976.36			117		78-129		
Benzo(g,h,i)perylene	833.33	929.4			112		77-118		
Benzo(k)fluoranthene	833.33	918.97			110		79-120		
1,1'-Biphenyl	833.33	799.66			96		76-111		
4-Bromophenyl-phenylether	833.33	946.52			114		84-120		
Butylbenzylphthalate	833.33	952.81			114		80-118		
Di-n-butylphthalate	833.33	917.25			110		84-120		
Caprolactam	416.67	360.42			87		73-119		
Carbazole	833.33	859.95			103		78-117		
4-Chloro-3-methylphenol	833.33	916.54			110		79-127		
4-Chloroaniline	833.33	235.01			28		10-100		
bis(2-Chloroethoxy)methane	833.33	878.03			105		77-116		
bis(2-Chloroethyl)ether	833.33	851.58			102		77-115		
2-Chloronaphthalene	833.33	733.78			88		63-146		
2-Chlorophenol	833.33	941.67			113		85-123		
4-Chlorophenyl-phenylether	833.33	955.25			115		81-120		
2,2'-oxybis(1-Chloropropane)	833.33	917.63			110		61-134		
Chrysene	833.33	878.59			105		80-121		
Dibenz(a,h)anthracene	833.33	946.04			114		81-123		
Dibenzofuran	833.33	896.22			108		85-115		
3,3'-Dichlorobenzidine	833.33	695.04			83		10-116		
2,4-Dichlorophenol	833.33	925.05			111		86-125		
Diethylphthalate	833.33	916.71			110		81-118		
2,4-Dimethylphenol	833.33	926.82			111		83-120		
Dimethylphthalate	833.33	891.94			107		82-113		
4,6-Dinitro-2-methylphenol	833.33	926.54			111		46-134		
2,4-Dinitrophenol	1666.67	1660.18			100		16-132		
2,4-Dinitrotoluene	833.33	899.52			108		81-122		
2,6-Dinitrotoluene	833.33	974.77			117		86-125		
bis(2-Ethylhexyl)phthalate	833.33	963.03			116		81-121		
Fluoranthene	833.33	864.09			104		81-117		
Fluorene	833.33	915.53			110		86-118		
Hexachlorobenzene	833.33	842.7			101		79-116		
Hexachlorobutadiene	833.33	1038.24			125*		72-120		
Hexachlorocyclopentadiene	1666.67	2180.79			131		64-137		
Hexachloroethane	833.33	933.32			112		78-114		
Indeno(1,2,3-cd)pyrene	833.33	876.99			105		81-118		
Isophorone	833.33	889.33			107		77-118		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2-Methylnaphthalene	833.33	835.07			100		83-109		
2-Methylphenol	833.33	970.8			116		80-133		
4-Methylphenol	833.33	871.48			105		73-125		
Naphthalene	833.33	879.25			106		82-112		
2-Nitroaniline	833.33	876.59			105		84-126		
3-Nitroaniline	833.33	852.15			102		66-119		
4-Nitroaniline	833.33	761.59			91		44-110		
Nitrobenzene	833.33	922.16			111		70-122		
2-Nitrophenol	833.33	983.3			118		83-120		
4-Nitrophenol	833.33	875.74			105		52-133		
N-Nitroso-di-n-propylamine	833.33	904.07			108		67-121		
N-Nitrosodiphenylamine	833.33	911.59			109		83-118		
Di-n-octylphthalate	833.33	1102.16			132		80-140		
Pentachlorophenol	833.33	871.79			105		57-126		
Phenanthrene	833.33	822.07			99		80-114		
Phenol	833.33	880.34			106		73-122		
Pyrene	833.33	911			109		81-114		
2,4,5-Trichlorophenol	833.33	1005.8			121		86-123		
2,4,6-Trichlorophenol	833.33	1005.97			121		81-123		
Batch number: 16064SLB026	Sample number(s): 8260172,8260174								
Acenaphthene	1666.67	1767.66			106		83-116		
Acenaphthylene	1666.67	1872.79			112		83-119		
Acetophenone	1666.67	1475.52			89		74-116		
Anthracene	1666.67	1731.96			104		82-118		
Atrazine	1666.67	1506.81			90		62-143		
Benzaldehyde	1666.67	1041.62			62		10-93		
Benzo(a)anthracene	1666.67	1754.17			105		76-119		
Benzo(a)pyrene	1666.67	1729.52			104		85-117		
Benzo(b)fluoranthene	1666.67	1751.05			105		78-129		
Benzo(g,h,i)perylene	1666.67	1740.08			104		77-118		
Benzo(k)fluoranthene	1666.67	1661.9			100		79-120		
1,1'-Biphenyl	1666.67	1615.05			97		76-111		
4-Bromophenyl-phenylether	1666.67	1725.75			104		84-120		
Butylbenzylphthalate	1666.67	1792.66			108		80-118		
Di-n-butylphthalate	1666.67	1735.8			104		84-120		
Caprolactam	1666.67	1453.89			87		73-119		
Carbazole	1666.67	1699.75			102		78-117		
4-Chloro-3-methylphenol	1666.67	1706.49			102		79-127		
4-Chloroaniline	1666.67	715.73			43		10-100		
bis(2-Chloroethoxy)methane	1666.67	1807.9			108		77-116		
bis(2-Chloroethyl)ether	1666.67	1597.29			96		77-115		
2-Chloronaphthalene	1666.67	1639.71			98		63-146		
2-Chlorophenol	1666.67	1730.94			104		85-123		
4-Chlorophenyl-phenylether	1666.67	1655.06			99		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1620.26			97		61-134		
Chrysene	1666.67	1722			103		80-121		
Dibenz(a,h)anthracene	1666.67	1753.06			105		81-123		
Dibenzofuran	1666.67	1709.75			103		85-115		
3,3'-Dichlorobenzidine	1666.67	1525.73			92		10-116		
2,4-Dichlorophenol	1666.67	1777.02			107		86-125		
Diethylphthalate	1666.67	1640.14			98		81-118		
2,4-Dimethylphenol	1666.67	1671.92			100		83-120		
Dimethylphthalate	1666.67	1667.85			100		82-113		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
4,6-Dinitro-2-methylphenol	1666.67	1645.67			99		46-134		
2,4-Dinitrophenol	3333.33	3186.41			96		16-132		
2,4-Dinitrotoluene	1666.67	1623.06			97		81-122		
2,6-Dinitrotoluene	1666.67	1674.51			100		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1830.48			110		81-121		
Fluoranthene	1666.67	1689.17			101		81-117		
Fluorene	1666.67	1713.65			103		86-118		
Hexachlorobenzene	1666.67	1615.39			97		79-116		
Hexachlorobutadiene	1666.67	1625.41			98		72-120		
Hexachlorocyclopentadiene	3333.33	4155.2			125		64-137		
Hexachloroethane	1666.67	1639.8			98		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1725.38			104		81-118		
Isophorone	1666.67	1708.01			102		77-118		
2-Methylnaphthalene	1666.67	1657.96			99		83-109		
2-Methylphenol	1666.67	1776.55			107		80-133		
4-Methylphenol	1666.67	1638.97			98		73-125		
Naphthalene	1666.67	1686.9			101		82-112		
2-Nitroaniline	1666.67	1787.86			107		84-126		
3-Nitroaniline	1666.67	1498.43			90		66-119		
4-Nitroaniline	1666.67	1360.7			82		44-110		
Nitrobenzene	1666.67	1732.33			104		70-122		
2-Nitrophenol	1666.67	1789.85			107		83-120		
4-Nitrophenol	1666.67	1756.17			105		52-133		
N-Nitroso-di-n-propylamine	1666.67	1566.17			94		67-121		
N-Nitrosodiphenylamine	1666.67	1747.86			105		83-118		
Di-n-octylphthalate	1666.67	1944.79			117		80-140		
Pentachlorophenol	1666.67	1477.39			89		57-126		
Phenanthrene	1666.67	1617.22			97		80-114		
Phenol	1666.67	1698.54			102		73-122		
Pyrene	1666.67	1656.24			99		81-114		
2,4,5-Trichlorophenol	1666.67	1706.3			102		86-123		
2,4,6-Trichlorophenol	1666.67	1860.07			112		81-123		
Batch number: 16068SLD026	Sample number(s): 8260173,8260175,8260177								
Acenaphthene	1666.67	1678.79			101		83-116		
Acenaphthylene	1666.67	1815.57			109		83-119		
Acetophenone	1666.67	1571.6			94		74-116		
Anthracene	1666.67	1696.67			102		82-118		
Atrazine	1666.67	1513.44			91		62-143		
Benzaldehyde	1666.67	1057.72			63		10-93		
Benzo(a)anthracene	1666.67	1598.36			96		76-119		
Benzo(a)pyrene	1666.67	1659.41			100		85-117		
Benzo(b)fluoranthene	1666.67	1595.24			96		78-129		
Benzo(g,h,i)perylene	1666.67	1835.09			110		77-118		
Benzo(k)fluoranthene	1666.67	1751.28			105		79-120		
1,1'-Biphenyl	1666.67	1491.75			90		76-111		
4-Bromophenyl-phenylether	1666.67	1901.12			114		84-120		
Butylbenzylphthalate	1666.67	1825.86			110		80-118		
Di-n-butylphthalate	1666.67	1724.08			103		84-120		
Caprolactam	1666.67	1687.92			101		73-119		
Carbazole	1666.67	1670.14			100		78-117		
4-Chloro-3-methylphenol	1666.67	1966.39			118		79-127		
4-Chloroaniline	1666.67	652.21			39		10-100		
bis(2-Chloroethoxy)methane	1666.67	1769.45			106		77-116		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
bis(2-Chloroethyl)ether	1666.67	1540.07			92		77-115		
2-Chloronaphthalene	1666.67	1679.43			101		63-146		
2-Chlorophenol	1666.67	1815.9			109		85-123		
4-Chlorophenyl-phenylether	1666.67	1641.71			99		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1522.87			91		61-134		
Chrysene	1666.67	1699.01			102		80-121		
Dibenz(a,h)anthracene	1666.67	1792.43			108		81-123		
Dibenzofuran	1666.67	1662.17			100		85-115		
3,3'-Dichlorobenzidine	1666.67	1673.83			100		10-116		
2,4-Dichlorophenol	1666.67	1822.24			109		86-125		
Diethylphthalate	1666.67	1711.41			103		81-118		
2,4-Dimethylphenol	1666.67	1865.49			112		83-120		
Dimethylphthalate	1666.67	1709.27			103		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1686.78			101		46-134		
2,4-Dinitrophenol	3333.33	2511.14			75		16-132		
2,4-Dinitrotoluene	1666.67	1730.97			104		81-122		
2,6-Dinitrotoluene	1666.67	1700.71			102		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1739.66			104		81-121		
Fluoranthene	1666.67	1537.74			92		81-117		
Fluorene	1666.67	1636.7			98		86-118		
Hexachlorobenzene	1666.67	1781.46			107		79-116		
Hexachlorobutadiene	1666.67	1698.86			102		72-120		
Hexachlorocyclopentadiene	3333.33	3981.94			119		64-137		
Hexachloroethane	1666.67	1713.07			103		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1752.24			105		81-118		
Isophorone	1666.67	1798.64			108		77-118		
2-Methylnaphthalene	1666.67	1732.85			104		83-109		
2-Methylphenol	1666.67	1822.72			109		80-133		
4-Methylphenol	1666.67	1824.72			109		73-125		
Naphthalene	1666.67	1652.27			99		82-112		
2-Nitroaniline	1666.67	1834.66			110		84-126		
3-Nitroaniline	1666.67	1615.21			97		66-119		
4-Nitroaniline	1666.67	1487.93			89		44-110		
Nitrobenzene	1666.67	1738.33			104		70-122		
2-Nitrophenol	1666.67	1825.03			110		83-120		
4-Nitrophenol	1666.67	1591.58			95		52-133		
N-Nitroso-di-n-propylamine	1666.67	1781.5			107		67-121		
N-Nitrosodiphenylamine	1666.67	1607.53			96		83-118		
Di-n-octylphthalate	1666.67	1696.17			102		80-140		
Pentachlorophenol	1666.67	1849.76			111		57-126		
Phenanthrene	1666.67	1568.35			94		80-114		
Phenol	1666.67	1720.67			103		73-122		
Pyrene	1666.67	1629.66			98		81-114		
2,4,5-Trichlorophenol	1666.67	1818.59			109		86-123		
2,4,6-Trichlorophenol	1666.67	1743.76			105		81-123		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 160620006A	Sample number(s): 8260172-8260175								
4-Amino-2,6-Dinitrotoluene	2010	2140.19			106		42-138		
2-Amino-4,6-Dinitrotoluene	2010	2207.48			110		43-141		
2,6-Diamino-4-nitrotoluene	1800	1854	1800	1854.31	103	103	80-115	0	50
2,4-Diamino-6-nitrotoluene	1810	1740.59	1810	1716.42	96	95	79-115	1	50
3,5-Dinitroaniline	2000	2225.08			111		47-141		

*- Outside of specification
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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,3-Dinitrobenzene	2000	2271.84			114		54-140		
2,4-Dinitrotoluene	2010	2224.64			111		52-137		
2,6-Dinitrotoluene	2010	2148.71			107		51-138		
HMX	2010	2293.96			114		29-148		
Nitrobenzene	2000	2487.13			124		64-138		
Nitroglycerin	22100	21918.22			99		45-137		
2-Nitrotoluene	2010	2147.14			107		57-135		
3-Nitrotoluene	2010	2119.75			105		57-135		
4-Nitrotoluene	2000	2147.18			107		53-133		
PETN	22100	22306.66			101		36-143		
RDX	2000	2424.11			121		45-145		
Tetryl	2000	2224.59			111		38-152		
1,3,5-Trinitrobenzene	2010	2261.89			113		48-141		
2,4,6-Trinitrotoluene	2000	2242.76			112		47-140		
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160610026A	Sample number(s): 8260165-8260175,8260177								
PCB-1016	168	152.76			91		76-121		
PCB-1260	168	187.24			111		79-130		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160630032A	Sample number(s): 8260165-8260175,8260177								
Ethylene glycol	104	96.62			93		76-122		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160610637001	Sample number(s): 8260165-8260171								
Aluminum	200	198.21			99		80-120		
Barium	200	206.67			103		80-120		
Calcium	400	403.59			101		80-120		
Cobalt	50	52.21			104		80-120		
Copper	25	27.26			109		80-120		
Iron	100	102			102		80-120		
Lead	15	15.75			105		80-120		
Magnesium	200	205.65			103		80-120		
Manganese	50	51.62			103		80-120		
Nickel	50	53.05			106		80-120		
Potassium	1000	1011.29			101		80-120		
Sodium	1000	1013.82			101		80-120		
Titanium	100	103.74			104		80-120		
Vanadium	50	53.31			107		80-120		
Zinc	50	51.13			102		80-120		
Batch number: 160610637001A	Sample number(s): 8260165-8260171								
Antimony	0.600	0.618			103		80-120		
Arsenic	1.00	1.12			112		80-120		
Beryllium	0.400	0.463			116		80-120		
Cadmium	0.500	0.502			100		80-120		
Chromium	5.00	5.13			103		80-120		
Silver	5.00	5.19			104		80-120		
Thallium	0.200	0.205			103		80-120		
Batch number: 160610637001B	Sample number(s): 8260165-8260171								
Selenium	1.00	1.02			102		80-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 160610637002	Sample number(s): 8260172-8260175,8260177								
Aluminum	200	203.41			102		80-120		
Barium	200	210.58			105		80-120		
Calcium	400	418.01			105		80-120		
Cobalt	50	53.35			107		80-120		
Copper	25	26.59			106		80-120		
Iron	100	98.16			98		80-120		
Lead	15	15.95			106		80-120		
Magnesium	200	207.29			104		80-120		
Manganese	50	53.08			106		80-120		
Nickel	50	53.95			108		80-120		
Potassium	1000	1003.44			100		80-120		
Sodium	1000	1004.15			100		80-120		
Titanium	100	105.05			105		80-120		
Vanadium	50	54.22			108		80-120		
Zinc	50	51.69			103		80-120		
Batch number: 160610637002A	Sample number(s): 8260172-8260175,8260177								
Antimony	0.600	0.636			106		80-120		
Arsenic	1.00	1.12			112		80-120		
Beryllium	0.400	0.402			101		80-120		
Cadmium	0.500	0.557			111		80-120		
Chromium	5.00	5.47			109		80-120		
Silver	5.00	5.39			108		80-120		
Thallium	0.200	0.214			107		80-120		
Batch number: 160610637002B	Sample number(s): 8260172-8260175,8260177								
Selenium	1.00	1.05			105		80-120		
Batch number: 160610638001	Sample number(s): 8260165-8260171								
Mercury	0.100	0.0887			89		80-120		
Batch number: 160610638002	Sample number(s): 8260172-8260175,8260177								
Mercury	0.100	0.0923			92		80-120		
	%	%	%	%					
Batch number: 16062820003B	Sample number(s): 8260165-8260171,8260177								
Moisture	89.5	89.43			100		99-101		
Batch number: 16077820012A	Sample number(s): 8260172-8260175								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: R160621AA	Sample number(s): 8260166,8260168,8260172 UNSPK: P260957									
Acetone	< 960	8970.9	7435.09	7562.72	7019.05	83	93	46-139	6	30
Benzene	< 240	1196.12	1093.21	1008.36	1015.33	91	101	80-120	7	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Bromodichloromethane	< 240	1196.12	1073.69	1008.36	1023.24	90	101	75-120	5	30
Bromoform	< 240	1196.12	1121.95	1008.36	1082.91	94	107	64-120	4	30
Bromomethane	< 240	1196.12	971.92	1008.36	971.31	81	96	16-200	0	30
2-Butanone	< 480	8970.9	8028.56	7562.72	7507.9	89	99	54-129	7	30
Carbon Disulfide	< 240	1196.12	1126.94	1008.36	1078.2	94	107	60-120	4	30
Carbon Tetrachloride	< 240	1196.12	1086.11	1008.36	1043.67	91	104	69-130	4	30
Chlorobenzene	< 240	1196.12	1066.01	1008.36	1004.86	89	100	80-120	6	30
Chloroethane	< 240	1196.12	956.36	1008.36	920.44	80	91	11-200	4	30
Chloroform	< 240	1196.12	1144.49	1008.36	1084.68	96	108	80-120	5	30
Chloromethane	< 240	1196.12	819.42	1008.36	838	69	83	56-120	2	30
Cyclohexane	< 240	1196.12	1032.11	1008.36	896.28	86	89	58-120	14	30
1,2-Dibromo-3-chloropropane	< 240	1196.12	953.7	1008.36	898.24	80	89	54-120	6	30
Dibromochloromethane	< 240	1196.12	1146.65	1008.36	1062.95	96	105	77-120	8	30
1,2-Dibromoethane	< 240	1196.12	1110.9	1008.36	1058.22	93	105	80-120	5	30
1,2-Dichlorobenzene	< 240	1196.12	1082.76	1008.36	1027.82	91	102	80-120	5	30
1,3-Dichlorobenzene	< 240	1196.12	1104.49	1008.36	1042.06	92	103	80-120	6	30
1,4-Dichlorobenzene	< 240	1196.12	1084.02	1008.36	1014.7	91	101	80-120	7	30
Dichlorodifluoromethane	< 240	1196.12	393.92	1008.36	427.07	33	42	28-131	8	30
1,1-Dichloroethane	< 240	1196.12	1109.89	1008.36	1057.91	93	105	77-120	5	30
1,2-Dichloroethane	< 240	1196.12	1110.9	1008.36	1025.34	93	102	77-130	8	30
1,1-Dichloroethene	84.99	1196.12	1196.77	1008.36	1112.29	93	102	73-129	7	30
cis-1,2-Dichloroethene	< 240	1196.12	1161.16	1008.36	1085.76	97	108	80-120	7	30
trans-1,2-Dichloroethene	< 240	1196.12	1177.67	1008.36	1110.07	98	110	80-125	6	30
1,2-Dichloropropane	< 240	1196.12	1125.14	1008.36	1055.06	94	105	76-120	6	30
cis-1,3-Dichloropropene	< 240	1196.12	1108.22	1008.36	1061.8	93	105	74-120	4	30
trans-1,3-Dichloropropene	< 240	1196.12	1111.27	1008.36	1071.17	93	106	76-120	4	30
Ethylbenzene	< 240	1196.12	1075.82	1008.36	994.99	90	99	80-120	8	30
Freon 113	< 480	1196.12	909.51	1008.36	905.1	76	90	57-141	0	30
2-Hexanone	< 480	5980.6	5711.72	5041.81	5457.62	96	108	39-120	5	30
Isopropylbenzene	< 240	1196.12	1090.75	1008.36	1028.92	91	102	70-120	6	30
Methyl Acetate	< 240	1196.12	1193.06	1008.36	1097.35	100	109	52-146	8	30
Methyl Tertiary Butyl Ether	< 240	1196.12	1140.8	1008.36	1055.41	95	105	72-120	8	30
4-Methyl-2-pentanone	< 480	5980.6	5583.06	5041.81	5323.02	93	106	50-120	5	30
Methylcyclohexane	92.56	1196.12	1259.6	1008.36	953.72	98	85	52-128	28	30
Methylene Chloride	< 240	1196.12	1188.11	1008.36	1112.68	99	110	76-122	7	30
Styrene	< 240	1196.12	1034.1	1008.36	978.14	86	97	76-120	6	30
1,1,2,2-Tetrachloroethane	< 240	1196.12	1091.71	1008.36	1031.67	91	102	67-121	6	30
Tetrachloroethene	34342.72	1196.12	36386.02	1008.36	14968.2	171 (2)	-1920 (2)	78-120	83*	30
Toluene	< 240	1196.12	1225.37	1008.36	1076.85	102	107	80-120	13	30
1,2,4-Trichlorobenzene	< 240	1196.12	1001.39	1008.36	1024.11	84	102	55-120	2	30
1,1,1-Trichloroethane	967.26	1196.12	2183.4	1008.36	1417.54	102	45*	66-128	43*	30
1,1,2-Trichloroethane	< 240	1196.12	1078.59	1008.36	1038.02	90	103	80-120	4	30
Trichloroethene	675.16	1196.12	1895.42	1008.36	1363.61	102	68*	80-120	33*	30
Trichlorofluoromethane	< 240	1196.12	970.35	1008.36	951.99	81	94	54-140	2	30
Vinyl Chloride	< 240	1196.12	833.38	1008.36	840.57	70	83	59-120	1	30
Xylene (Total)	< 240	3588.36	3590.25	3025.09	3099.32	100	102	80-120	15	30
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 16062SLI026	Sample number(s): 8260165-8260171 UNSPK: P260039									
Acenaphthene	< 17	825.08	871.05	831.67	897.27	106	108	83-116	3	30
Acenaphthylene	< 17	825.08	867.85	831.67	905.62	105	109	83-119	4	30
Acetophenone	< 33	825.08	757.82	831.67	818.45	92	98	74-116	8	30

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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Anthracene	< 17	825.08	886.96	831.67	957.66	107	115	82-118	8	30
Atrazine	< 170	412.54	399.44	415.83	393.5	97	95	62-143	1	30
Benzaldehyde	< 170	825.08	237.32	831.67	257.52	29	31	10-93	8	30
Benzo(a)anthracene	< 17	825.08	815.45	831.67	861.55	99	104	76-119	5	30
Benzo(a)pyrene	< 17	825.08	800	831.67	861.53	97	104	85-117	7	30
Benzo(b)fluoranthene	< 17	825.08	868.14	831.67	929.49	105	112	78-129	7	30
Benzo(g,h,i)perylene	< 17	825.08	849.69	831.67	910.26	103	109	77-118	7	30
Benzo(k)fluoranthene	< 17	825.08	815.01	831.67	886.82	99	107	79-120	8	30
1,1'-Biphenyl	< 33	825.08	785.47	831.67	824.03	95	99	76-111	5	30
4-Bromophenyl-phenylether	< 33	825.08	902.75	831.67	956.97	109	115	84-120	6	30
Butylbenzylphthalate	< 170	825.08	871.84	831.67	942.54	106	113	80-118	8	30
Di-n-butylphthalate	< 170	825.08	859.59	831.67	952.1	104	114	84-120	10	30
Caprolactam	< 170	412.54	337.23	415.83	395.6	82	95	73-119	16	30
Carbazole	< 33	825.08	842.2	831.67	884.27	102	106	78-117	5	30
4-Chloro-3-methylphenol	< 33	825.08	905.39	831.67	956.14	110	115	79-127	5	30
4-Chloroaniline	< 66	825.08	392.04	831.67	474.45	48	57	10-100	19	30
bis(2-Chloroethoxy)methane	< 33	825.08	824.02	831.67	901.63	100	108	77-116	9	30
bis(2-Chloroethyl)ether	< 33	825.08	802.72	831.67	815.04	97	98	77-115	2	30
2-Chloronaphthalene	< 33	825.08	716.4	831.67	1154.5	87	139	63-146	47*	30
2-Chlorophenol	< 33	825.08	868.96	831.67	936.03	105	113	85-123	7	30
4-Chlorophenyl-phenylether	< 33	825.08	940.44	831.67	960.98	114	116	81-120	2	30
2,2'-oxybis(1-Chloropropane)	< 33	825.08	787.27	831.67	863.53	95	104	61-134	9	30
Chrysene	< 17	825.08	796.96	831.67	867.73	97	104	80-121	9	30
Dibenz(a,h)anthracene	< 17	825.08	840.52	831.67	937.79	102	113	81-123	11	30
Dibenzofuran	< 33	825.08	861.18	831.67	910.24	104	109	85-115	6	30
3,3'-Dichlorobenzidine	< 330	825.08	677.67	831.67	712.1	82	86	10-116	5	30
2,4-Dichlorophenol	< 33	825.08	932.27	831.67	976.73	113	117	86-125	5	30
Diethylphthalate	< 170	825.08	854.95	831.67	891.19	104	107	81-118	4	30
2,4-Dimethylphenol	< 33	825.08	850.12	831.67	923.8	103	111	83-120	8	30
Dimethylphthalate	< 170	825.08	848.02	831.67	891.07	103	107	82-113	5	30
4,6-Dinitro-2-methylphenol	< 500	825.08	837.52	831.67	969.36	102	117	46-134	15	30
2,4-Dinitrophenol	< 990	1650.17	1218.92	1663.34	1538.78	74	93	16-132	23	30
2,4-Dinitrotoluene	< 170	825.08	885.38	831.67	905.08	107	109	81-122	2	30
2,6-Dinitrotoluene	< 33	825.08	955.5	831.67	1005.25	116	121	86-125	5	30
bis(2-Ethylhexyl)phthalate	< 170	825.08	905.39	831.67	970.7	110	117	81-121	7	30
Fluoranthene	< 17	825.08	817.98	831.67	882.03	99	106	81-117	8	30
Fluorene	< 17	825.08	882.36	831.67	905.84	107	109	86-118	3	30
Hexachlorobenzene	< 17	825.08	836.2	831.67	917.34	101	110	79-116	9	30
Hexachlorobutadiene	< 33	825.08	892.26	831.67	993.22	108	119	72-120	11	30
Hexachlorocyclopentadiene	< 500	1650.17	2007.27	1663.34	2141.36	122	129	64-137	6	30
Hexachloroethane	< 170	825.08	830.76	831.67	890.68	101	107	78-114	7	30
Indeno(1,2,3-cd)pyrene	< 17	825.08	837.11	831.67	909.38	101	109	81-118	8	30
Isophorone	< 33	825.08	820.95	831.67	881.66	99	106	77-118	7	30
2-Methylnaphthalene	< 17	825.08	772.16	831.67	851.48	94	102	83-109	10	30
2-Methylphenol	< 33	825.08	881.27	831.67	962.79	107	116	80-133	9	30
4-Methylphenol	< 33	825.08	848.16	831.67	912.56	103	110	73-125	7	30
Naphthalene	< 17	825.08	788.06	831.67	885.84	96	107	82-112	12	30
2-Nitroaniline	< 33	825.08	900.18	831.67	941.03	109	113	84-126	4	30
3-Nitroaniline	< 170	825.08	893.65	831.67	901.99	108	108	66-119	1	30
4-Nitroaniline	< 170	825.08	767.67	831.67	824.55	93	99	44-110	7	30
Nitrobenzene	< 33	825.08	846.9	831.67	926.98	103	111	70-122	9	30
2-Nitrophenol	< 33	825.08	903.8	831.67	1006.15	110	121*	83-120	11	30
4-Nitrophenol	< 500	825.08	825.8	831.67	865.28	100	104	52-133	5	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
N-Nitroso-di-n-propylamine	< 33	825.08	814.94	831.67	878.42	99	106	67-121	7	30
N-Nitrosodiphenylamine	< 33	825.08	866.27	831.67	938.54	105	113	83-118	8	30
Di-n-octylphthalate	< 170	825.08	986.22	831.67	1048.45	120	126	80-140	6	30
Pentachlorophenol	< 170	825.08	795.67	831.67	816.2	96	98	57-126	3	30
Phenanthrene	< 17	825.08	789	831.67	861.44	96	104	80-114	9	30
Phenol	< 33	825.08	788.08	831.67	841.76	96	101	73-122	7	30
Pyrene	3.83	825.08	842.4	831.67	916.95	102	110	81-114	8	30
2,4,5-Trichlorophenol	< 33	825.08	981.86	831.67	1029.51	119	124*	86-123	5	30
2,4,6-Trichlorophenol	< 33	825.08	926.01	831.67	986.32	112	119	81-123	6	30
Batch number: 16064SLB026	Sample number(s): 8260172,8260174 UNSPK: P260957									
Acenaphthene	< 17	1660.03	1637.58	1649.08	1679.38	99	102	83-116	3	30
Acenaphthylene	8.61	1660.03	1746.68	1649.08	1759.11	105	106	83-119	1	30
Acetophenone	< 33	1660.03	1375.1	1649.08	1422.71	83	86	74-116	3	30
Anthracene	10.12	1660.03	1621.41	1649.08	1684.37	97	102	82-118	4	30
Atrazine	< 160	1660.03	1315.78	1649.08	1321.44	79	80	62-143	0	30
Benzaldehyde	< 160	1660.03	1181.92	1649.08	1239.28	71	75	10-93	5	30
Benzo(a)anthracene	42.64	1660.03	1642.84	1649.08	1709.23	96	101	76-119	4	30
Benzo(a)pyrene	38.82	1660.03	1546.77	1649.08	1659.88	91	98	85-117	7	30
Benzo(b)fluoranthene	59.58	1660.03	1671.54	1649.08	1681.07	97	98	78-129	1	30
Benzo(g,h,i)perylene	39.42	1660.03	1624.94	1649.08	1692.37	96	100	77-118	4	30
Benzo(k)fluoranthene	24.11	1660.03	1484.24	1649.08	1591.88	88	95	79-120	7	30
1,1'-Biphenyl	< 33	1660.03	1538.37	1649.08	1538.38	93	93	76-111	0	30
4-Bromophenyl-phenylether	< 33	1660.03	1639.47	1649.08	1697.44	99	103	84-120	3	30
Butylbenzylphthalate	< 160	1660.03	1701.31	1649.08	1738.56	102	105	80-118	2	30
Di-n-butylphthalate	< 160	1660.03	1607.13	1649.08	1646.29	97	100	84-120	2	30
Caprolactam	< 160	1660.03	1247.14	1649.08	1321.7	75	80	73-119	6	30
Carbazole	< 33	1660.03	1545.69	1649.08	1646.31	93	100	78-117	6	30
4-Chloro-3-methylphenol	< 33	1660.03	1472.11	1649.08	1537.99	89	93	79-127	4	30
4-Chloroaniline	< 66	1660.03	593.13	1649.08	701.46	36	43	10-100	17	30
bis(2-Chloroethoxy)methane	< 33	1660.03	1631.81	1649.08	1662.69	98	101	77-116	2	30
bis(2-Chloroethyl)ether	< 33	1660.03	1553.11	1649.08	1571.62	94	95	77-115	1	30
2-Chloronaphthalene	< 33	1660.03	1473.74	1649.08	1507	89	91	63-146	2	30
2-Chlorophenol	< 33	1660.03	1538.73	1649.08	1580.43	93	96	85-123	3	30
4-Chlorophenyl-phenylether	< 33	1660.03	1511.5	1649.08	1549.63	91	94	81-120	2	30
2,2'-oxybis(1-Chloropropane)	< 33	1660.03	1539.07	1649.08	1592.15	93	97	61-134	3	30
Chrysene	72.5	1660.03	1649.49	1649.08	1740.32	95	101	80-121	5	30
Dibenz(a,h)anthracene	< 17	1660.03	1659.62	1649.08	1772.72	100	107	81-123	7	30
Dibenzofuran	21.77	1660.03	1610.98	1649.08	1611.67	96	96	85-115	0	30
3,3'-Dichlorobenzidine	< 330	1660.03	811.97	1649.08	961.47	49	58	10-116	17	30
2,4-Dichlorophenol	< 33	1660.03	1502.94	1649.08	1572.68	91	95	86-125	5	30
Diethylphthalate	< 160	1660.03	1556.54	1649.08	1539.63	94	93	81-118	1	30
2,4-Dimethylphenol	< 33	1660.03	882.2	1649.08	982.92	53*	60*	83-120	11	30
Dimethylphthalate	< 160	1660.03	1540.81	1649.08	1559.86	93	95	82-113	1	30
4,6-Dinitro-2-methylphenol	< 490	1660.03	1483.16	1649.08	1555.81	89	94	46-134	5	30
2,4-Dinitrophenol	< 990	3320.05	2591.57	3298.15	2648.41	78	80	16-132	2	30
2,4-Dinitrotoluene	< 160	1660.03	1490.69	1649.08	1527.56	90	93	81-122	2	30
2,6-Dinitrotoluene	< 33	1660.03	1544.29	1649.08	1549.11	93	94	86-125	0	30
bis(2-Ethylhexyl)phthalate	< 170	1660.03	1702.69	1649.08	1738.48	103	105	81-121	2	30
Fluoranthene	57.13	1660.03	1580.52	1649.08	1689.2	92	99	81-117	7	30
Fluorene	< 17	1660.03	1576.88	1649.08	1606.8	95	97	86-118	2	30
Hexachlorobenzene	< 17	1660.03	1485.48	1649.08	1592.57	89	97	79-116	7	30
Hexachlorobutadiene	< 33	1660.03	1537.4	1649.08	1573.74	93	95	72-120	2	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Hexachlorocyclopentadiene	< 490	3320.05	2645.59	3298.15	2848.55	80	86	64-137	7	30
Hexachloroethane	< 160	1660.03	1602.99	1649.08	1623.18	97	98	78-114	1	30
Indeno(1,2,3-cd)pyrene	28.74	1660.03	1643.38	1649.08	1696.22	97	101	81-118	3	30
Isophorone	< 33	1660.03	1589.31	1649.08	1633.37	96	99	77-118	3	30
2-Methylnaphthalene	62.27	1660.03	1547.46	1649.08	1597.07	89	93	83-109	3	30
2-Methylphenol	< 33	1660.03	1343.79	1649.08	1419.7	81	86	80-133	5	30
4-Methylphenol	< 33	1660.03	1347.37	1649.08	1403.08	81	85	73-125	4	30
Naphthalene	42.28	1660.03	1617.46	1649.08	1649.02	95	97	82-112	2	30
2-Nitroaniline	< 33	1660.03	1608.81	1649.08	1658.99	97	101	84-126	3	30
3-Nitroaniline	< 160	1660.03	1400.6	1649.08	1380.3	84	84	66-119	1	30
4-Nitroaniline	< 160	1660.03	1188.61	1649.08	1237.37	72	75	44-110	4	30
Nitrobenzene	< 33	1660.03	1547.47	1649.08	1630.78	93	99	70-122	5	30
2-Nitrophenol	< 33	1660.03	1648.17	1649.08	1738.05	99	105	83-120	5	30
4-Nitrophenol	< 490	1660.03	1474.28	1649.08	1607.23	89	97	52-133	9	30
N-Nitroso-di-n-propylamine	< 33	1660.03	1518.79	1649.08	1558.55	91	95	67-121	3	30
N-Nitrosodiphenylamine	< 33	1660.03	1436.97	1649.08	1524.25	87	92	83-118	6	30
Di-n-octylphthalate	< 160	1660.03	1758.2	1649.08	1789.75	106	109	80-140	2	30
Pentachlorophenol	< 170	1660.03	1123.43	1649.08	1225.98	68	74	57-126	9	30
Phenanthrene	77.97	1660.03	1570.99	1649.08	1635.99	90	94	80-114	4	30
Phenol	< 33	1660.03	1510.81	1649.08	1498.9	91	91	73-122	1	30
Pyrene	56.96	1660.03	1600.31	1649.08	1618.06	93	95	81-114	1	30
2,4,5-Trichlorophenol	< 33	1660.03	1584.61	1649.08	1603.79	95	97	86-123	1	30
2,4,6-Trichlorophenol	< 33	1660.03	1489.28	1649.08	1618.48	90	98	81-123	8	30
Batch number: 16068SLD026	Sample number(s): 8260173,8260175,8260177 UNSPK: P262914									
Acenaphthene	< 17	1643.66	1678.69	1644.74	1731.26	102	105	83-116	3	30
Acenaphthylene	< 17	1643.66	1738.44	1644.74	1823.52	106	111	83-119	5	30
Acetophenone	< 33	1643.66	1599.22	1644.74	1522.86	97	93	74-116	5	30
Anthracene	< 17	1643.66	1599.8	1644.74	1677.32	97	102	82-118	5	30
Atrazine	< 170	1643.66	1385.77	1644.74	1340.74	84	82	62-143	3	30
Benzaldehyde	< 170	1643.66	1092.68	1644.74	987.36	66	60	10-93	10	30
Benzo(a)anthracene	< 17	1643.66	1431.96	1644.74	1455.45	87	88	76-119	2	30
Benzo(a)pyrene	< 17	1643.66	1620.74	1644.74	1643.73	99	100	85-117	1	30
Benzo(b)fluoranthene	< 17	1643.66	1655.07	1644.74	1629.99	101	99	78-129	2	30
Benzo(g,h,i)perylene	< 17	1643.66	1784.84	1644.74	1742.31	109	106	77-118	2	30
Benzo(k)fluoranthene	< 17	1643.66	1632.35	1644.74	1748.62	99	106	79-120	7	30
1,1'-Biphenyl	< 33	1643.66	1481.84	1644.74	1502.64	90	91	76-111	1	30
4-Bromophenyl-phenylether	< 33	1643.66	1926.98	1644.74	1869.46	117	114	84-120	3	30
Butylbenzylphthalate	< 170	1643.66	1766.36	1644.74	1765.96	107	107	80-118	0	30
Di-n-butylphthalate	< 170	1643.66	1608.04	1644.74	1639.05	98	100	84-120	2	30
Caprolactam	< 170	1643.66	1460.81	1644.74	1637.77	89	100	73-119	11	30
Carbazole	< 33	1643.66	1545.94	1644.74	1549.86	94	94	78-117	0	30
4-Chloro-3-methylphenol	< 33	1643.66	1667.97	1644.74	1903.03	101	116	79-127	13	30
4-Chloroaniline	< 66	1643.66	846.03	1644.74	894.85	51	54	10-100	6	30
bis(2-Chloroethoxy)methane	< 33	1643.66	1586.19	1644.74	1662.08	97	101	77-116	5	30
bis(2-Chloroethyl)ether	< 33	1643.66	1573.21	1644.74	1436.39	96	87	77-115	9	30
2-Chloronaphthalene	< 33	1643.66	1777.81	1644.74	1818.52	108	111	63-146	2	30
2-Chlorophenol	< 33	1643.66	1702.09	1644.74	1613.53	104	98	85-123	5	30
4-Chlorophenyl-phenylether	< 33	1643.66	1625.22	1644.74	1695.05	99	103	81-120	4	30
2,2'-oxybis(1-Chloropropane)	< 33	1643.66	1560.66	1644.74	1410.71	95	86	61-134	10	30
Chrysene	< 17	1643.66	1528.29	1644.74	1550.58	93	94	80-121	1	30
Dibenz(a,h)anthracene	< 17	1643.66	1746.9	1644.74	1771.3	106	108	81-123	1	30
Dibenzofuran	< 33	1643.66	1654.92	1644.74	1705.64	101	104	85-115	3	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
3,3'-Dichlorobenzidine	< 330	1643.66	1380.81	1644.74	1428.52	84	87	10-116	3	30
2,4-Dichlorophenol	< 33	1643.66	1723.06	1644.74	1786.86	105	109	86-125	4	30
Diethylphthalate	< 170	1643.66	1668.58	1644.74	1771.22	102	108	81-118	6	30
2,4-Dimethylphenol	< 33	1643.66	1599.87	1644.74	1688.68	97	103	83-120	5	30
Dimethylphthalate	< 170	1643.66	1647.54	1644.74	1753.69	100	107	82-113	6	30
4,6-Dinitro-2-methylphenol	< 500	1643.66	1278.79	1644.74	1225.24	78	74	46-134	4	30
2,4-Dinitrophenol	< 990	3287.31	1676.83	3289.47	1943.31	51	59	16-132	15	30
2,4-Dinitrotoluene	< 170	1643.66	1640.81	1644.74	1704.11	100	104	81-122	4	30
2,6-Dinitrotoluene	< 33	1643.66	1620.03	1644.74	1740.96	99	106	86-125	7	30
bis(2-Ethylhexyl)phthalate	< 170	1643.66	1633.35	1644.74	1653.61	99	101	81-121	1	30
Fluoranthene	4.07	1643.66	1437	1644.74	1457.61	87	88	81-117	1	30
Fluorene	< 17	1643.66	1617.63	1644.74	1719.85	98	105	86-118	6	30
Hexachlorobenzene	< 17	1643.66	1819.79	1644.74	1912.16	111	116	79-116	5	30
Hexachlorobutadiene	< 33	1643.66	1678.64	1644.74	1631.4	102	99	72-120	3	30
Hexachlorocyclopentadiene	< 500	3287.31	3702.11	3289.47	3705.58	113	113	64-137	0	30
Hexachloroethane	< 170	1643.66	1813.78	1644.74	1572.31	110	96	78-114	14	30
Indeno(1,2,3-cd)pyrene	< 17	1643.66	1687.26	1644.74	1799.7	103	109	81-118	6	30
Isophorone	< 33	1643.66	1598.84	1644.74	1735.46	97	106	77-118	8	30
2-Methylnaphthalene	< 17	1643.66	1594.42	1644.74	1728.49	97	105	83-109	8	30
2-Methylphenol	< 33	1643.66	1783	1644.74	1694.98	108	103	80-133	5	30
4-Methylphenol	< 33	1643.66	1687.91	1644.74	1601.49	103	97	73-125	5	30
Naphthalene	< 17	1643.66	1583.92	1644.74	1647.11	96	100	82-112	4	30
2-Nitroaniline	< 33	1643.66	1683.92	1644.74	1745.36	102	106	84-126	4	30
3-Nitroaniline	< 170	1643.66	1608.64	1644.74	1659.92	98	101	66-119	3	30
4-Nitroaniline	< 170	1643.66	1382.9	1644.74	1426.81	84	87	44-110	3	30
Nitrobenzene	< 33	1643.66	1672.26	1644.74	1722.9	102	105	70-122	3	30
2-Nitrophenol	< 33	1643.66	1636.37	1644.74	1679.04	100	102	83-120	3	30
4-Nitrophenol	< 500	1643.66	1533.81	1644.74	1678.66	93	102	52-133	9	30
N-Nitroso-di-n-propylamine	< 33	1643.66	1809.66	1644.74	1640.33	110	100	67-121	10	30
N-Nitrosodiphenylamine	< 33	1643.66	1583.22	1644.74	1579.51	96	96	83-118	0	30
Di-n-octylphthalate	< 170	1643.66	1746.75	1644.74	1796.15	106	109	80-140	3	30
Pentachlorophenol	< 170	1643.66	1621.94	1644.74	1522.58	99	93	57-126	6	30
Phenanthrene	< 17	1643.66	1527.93	1644.74	1558.41	93	95	80-114	2	30
Phenol	< 33	1643.66	1686.1	1644.74	1555.99	103	95	73-122	8	30
Pyrene	< 17	1643.66	1603.06	1644.74	1631.95	98	99	81-114	2	30
2,4,5-Trichlorophenol	< 33	1643.66	1782.54	1644.74	1757.31	108	107	86-123	1	30
2,4,6-Trichlorophenol	< 33	1643.66	1750.52	1644.74	1775.24	107	108	81-123	1	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 160620006A	Sample number(s): 8260172-8260175 UNSPK: P260046									
4-Amino-2,6-Dinitrotoluene	< 120	1960	1150.41	1930	748.38	59	39*	42-138	42	50
2-Amino-4,6-Dinitrotoluene	< 120	1960	1189.42	1930	738.56	61	38*	43-141	47	50
3,5-Dinitroaniline	< 120	1950	1187.85	1930	717.46	61	37*	47-141	49	50
1,3-Dinitrobenzene	< 120	1950	1310.12	1920	826.1	67	43*	54-140	45	50
2,4-Dinitrotoluene	< 120	1960	1297.06	1930	831.72	66	43*	52-137	44	50
2,6-Dinitrotoluene	< 120	1960	1254.7	1930	839.47	64	43*	51-138	40	50
HMX	< 290	1960	1189.78	1930	693.42	61	36	29-148	53*	50
Nitrobenzene	< 290	1950	1494.23	1920	1032.9	77	54*	64-138	37	50
Nitroglycerin	< 2,300	21600	12366.9	21300	7469.4	57	35*	45-137	49	50
2-Nitrotoluene	< 120	1960	1281.88	1930	862.96	65	45*	57-135	39	50
3-Nitrotoluene	< 120	1960	1288.21	1930	843.66	66	44*	57-135	42	50
4-Nitrotoluene	< 120	1950	1211.34	1930	749.9	62	39*	53-133	47	50
PETN	< 2,300	21500	12062.23	21200	7174.85	56	34*	36-143	51*	50

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
RDX	< 120	1950	1291.46	1920	771.21	66	40*	45-145	50	50
Tetryl	< 290	1950	993.98	1920	562.24	51	29*	38-152	55*	50
1,3,5-Trinitrobenzene	< 120	1960	1238.72	1930	1059.46	63	55	48-141	16	50
2,4,6-Trinitrotoluene	< 120	1950	1074.84	1930	699.01	55	36*	47-140	42	50
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160610026A	Sample number(s): 8260165-8260175,8260177 UNSPK: P260957									
PCB-1016	< 17	168	142.52	165	143.43	85	87	76-121	1	50
PCB-1260	< 17	168	189.36	166	180.59	113	109	79-130	5	50
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160630032A	Sample number(s): 8260165-8260175,8260177 UNSPK: 8260168									
Ethylene glycol	< 10	104	87.38	104	93.04	84	89	76-122	6	20
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160610637001	Sample number(s): 8260165-8260171 UNSPK: P260040									
Aluminum	12616.59	196.08	12269.46	196.08	13659.2	-177 (2)	532 (2)	75-125	11	20
Barium	175.38	196.08	344.38	196.08	359.44	86	94	75-125	4	20
Calcium	34336.77	392.16	32061.6	392.16	31223.26	-580 (2)	-794 (2)	75-125	3	20
Cobalt	6.47	49.02	52.02	49.02	57.68	93	104	75-125	10	20
Copper	497.34	24.51	638.02	24.51	306.67	574 (2)	-778 (2)	75-125	70*	20
Iron	43896.1	98.04	45467.01	98.04	50273.82	1602 (2)	6505 (2)	75-125	10	20
Lead	249.75	14.71	288.95	14.71	283.39	267 (2)	229 (2)	75-125	2	20
Magnesium	4813.74	196.08	5763	196.08	4262.3	484 (2)	-281 (2)	75-125	30*	20
Manganese	468.92	49.02	474.91	49.02	567.54	12 (2)	201 (2)	75-125	18	20
Nickel	49.75	49.02	109.22	49.02	429.36	121	774*	75-125	119*	20
Potassium	1702.38	980.39	2493.62	980.39	2385.87	81	70*	75-125	4	20
Sodium	211.84	980.39	1189.87	980.39	1217.16	100	103	75-125	2	20
Titanium	761.31	98.04	780.2	98.04	785.42	19 (2)	25 (2)	75-125	1	20
Vanadium	27.78	49.02	76.12	49.02	91.92	99	131*	75-125	19	20
Zinc	582.33	49.02	757	49.02	665.05	356 (2)	169 (2)	75-125	13	20
Batch number: 160610637001A	Sample number(s): 8260165-8260171 UNSPK: P260040									
Antimony	5.32	1.18	6.41	1.18	5.74	93 (2)	36 (2)	75-125	11	20
Arsenic	6.33	1.96	8.56	1.96	7.76	114	73*	75-125	10	20
Beryllium	0.519	0.784	1.25	0.784	1.33	93	104	75-125	7	20
Cadmium	1.74	0.980	3.33	0.980	2.58	162*	86	75-125	25*	20
Chromium	127.52	9.80	179.46	9.80	126.97	530 (2)	-6 (2)	75-125	34*	20
Silver	0.373	9.80	9.80	9.80	9.94	96	98	75-125	1	20
Thallium	0.144	0.392	0.461	0.392	0.573	81	109	75-125	22*	20
Batch number: 160610637001B	Sample number(s): 8260165-8260171 UNSPK: P260040									
Selenium	0.286	1.96	2.16	1.96	2.20	95	98	75-125	2	20
Batch number: 160610637002	Sample number(s): 8260172-8260175,8260177 UNSPK: P260957									
Aluminum	17251.04	144.93	17779.7	163.93	18917.08	365 (2)	1016 (2)	75-125	6	20
Barium	130.7	144.93	319.18	163.93	284.55	130*	94	75-125	11	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Calcium	2317.89	289.86	3873.39	327.87	2431.73	537 (2)	35 (2)	75-125	46*	20
Cobalt	8.35	36.23	39.51	40.98	44.31	86	88	75-125	11	20
Copper	48.57	18.12	74.95	20.49	65.44	146*	82	75-125	14	20
Iron	22017.05	72.46	19559.68	81.97	16447.07	-3391 (2)	-6795 (2)	75-125	17	20
Lead	139.74	10.87	181.05	12.3	147.71	380 (2)	65 (2)	75-125	20	20
Magnesium	1723.41	144.93	2217.21	163.93	2423.8	341 (2)	427 (2)	75-125	9	20
Manganese	657.68	36.23	632	40.98	822.56	-71 (2)	402 (2)	75-125	26*	20
Nickel	8.25	36.23	41.66	40.98	45.62	92	91	75-125	9	20
Potassium	1829.31	724.64	3052.86	819.67	3257.64	169*	174*	75-125	6	20
Sodium	67.84	724.64	736.72	819.67	805.35	92	90	75-125	9	20
Titanium	664.2	72.46	775.91	81.97	820.81	154 (2)	191 (2)	75-125	6	20
Vanadium	34.74	36.23	70.52	40.98	73.66	99	95	75-125	4	20
Zinc	88.79	36.23	133.55	40.98	107.49	124	46*	75-125	22*	20
Batch number: 160610637002A	Sample number(s): 8260172-8260175,8260177 UNSPK: P260957									
Antimony	1.45	0.870	1.99	0.984	1.13	62*	-33*	75-125	55*	20
Arsenic	7.73	1.45	8.82	1.64	7.01	75 (2)	-44 (2)	75-125	23*	20
Beryllium	1.04	0.580	1.39	0.656	1.36	61*	49*	75-125	2	20
Cadmium	0.229	0.725	0.922	0.820	1.01	96	95	75-125	9	20
Chromium	20.75	7.25	29.23	8.20	25.02	117	52*	75-125	16	20
Silver	0.101	7.25	7.36	8.20	8.34	100	101	75-125	13	20
Thallium	0.290	0.290	0.534	0.328	0.611	84	98	75-125	13	20
Batch number: 160610637002B	Sample number(s): 8260172-8260175,8260177 UNSPK: P260957									
Selenium	0.569	1.45	1.96	1.64	1.88	96	80	75-125	4	20
Batch number: 160610638001	Sample number(s): 8260165-8260171 UNSPK: P260045									
Mercury	< 0.196	0.163	0.149	0.165	0.148	91	90	80-120	1	20
Batch number: 160610638002	Sample number(s): 8260172-8260175,8260177 UNSPK: P260957									
Mercury	0.0502	0.166	0.227	0.165	0.229	107	108	80-120	1	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 160610637001	Sample number(s): 8260165-8260171 BKG: P260040			
Aluminum	12616.59	13180.35	4	20
Barium	175.38	164.84	6	20
Calcium	34336.77	31097.15	10	20
Cobalt	6.47	8.31	25*	20
Copper	497.34	9419.63	180*	20
Iron	43896.1	47430.72	8	20
Lead	249.75	257.23	3	20
Magnesium	4813.74	4928.67	2	20
Manganese	468.92	574.69	20	20
Nickel	49.75	61.39	21*	20
Potassium	1702.38	1551.24	9	20
Sodium	211.84	195.26	8 (1)	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Titanium	761.31	641.62	17	20
Vanadium	27.78	26.73	4	20
Zinc	582.33	617.38	6	20
Batch number: 160610637001A	Sample number(s): 8260165-8260171 BKG: P260040			
Antimony	5.32	5.78	8	20
Arsenic	6.33	6.15	3	20
Beryllium	0.519	0.521	0 (1)	20
Cadmium	1.74	1.95	11	20
Chromium	127.52	124.74	2	20
Silver	0.373	0.354	5 (1)	20
Thallium	0.144	0.158	10 (1)	20
Batch number: 160610637001B	Sample number(s): 8260165-8260171 BKG: P260040			
Selenium	0.286	0.383	29* (1)	20
Batch number: 160610637002	Sample number(s): 8260172-8260175,8260177 BKG: P260957			
Aluminum	17251.04	13693.35	23*	20
Barium	130.7	191.5	38*	20
Calcium	2317.89	2762.81	18	20
Cobalt	8.35	8.51	2	20
Copper	48.57	48.05	1	20
Iron	22017.05	18698.5	16	20
Lead	139.74	116.29	18	20
Magnesium	1723.41	2043.89	17	20
Manganese	657.68	1370.6	70*	20
Nickel	8.25	7.97	3 (1)	20
Potassium	1829.31	2118.9	15	20
Sodium	67.84	62.26	9 (1)	20
Titanium	664.2	650.54	2	20
Vanadium	34.74	31.4	10	20
Zinc	88.79	80.4	10	20
Batch number: 160610637002A	Sample number(s): 8260172-8260175,8260177 BKG: P260957			
Antimony	1.45	1.52	5 (1)	20
Arsenic	7.73	8.09	5	20
Beryllium	1.04	0.895	15 (1)	20
Cadmium	0.229	0.307	29* (1)	20
Chromium	20.75	18.15	13	20
Silver	0.101	0.0967	4 (1)	20
Thallium	0.290	0.358	21* (1)	20
Batch number: 160610637002B	Sample number(s): 8260172-8260175,8260177 BKG: P260957			
Selenium	0.569	0.491	15 (1)	20
Batch number: 160610638001	Sample number(s): 8260165-8260171 BKG: P260045			
Mercury	< 0.196	< 0.191	0 (1)	20
Batch number: 160610638002	Sample number(s): 8260172-8260175,8260177 BKG: P260957			
Mercury	0.0502	0.0478	5 (1)	20
	%	%		
Batch number: 16062820003B	Sample number(s): 8260165-8260171,8260177 BKG: P261419			
Moisture	19.72	19.95	1	5
Batch number: 16077820012A	Sample number(s): 8260172-8260175 BKG: P260969			

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	%	%		
Moisture	11.95	10.11	17*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Soil Master
Batch number: A160631AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260167	116	108	101	84
8260169	119	113	97	93
8260170	117	111	99	88
8260171	118	114	94	94
8260174	122	118	96	94
8260175	119	113	94	92
8260176	112	109	98	94
Blank	112	109	98	95
LCS	109	106	100	103
LCSD	107	106	101	103
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160671AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260173	101	103	106	80
8260177	105	107	98	85
Blank	104	107	98	93
LCS	100	103	101	100
LCSD	101	100	101	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160621AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260166	88	86	79	74
8260168	82	83	79	72
8260172	90	89	90	95
Blank	107	106	106	97
LCS	103	101	102	103
LCSD	122	120	123	133*
MS	80	78	77	72
MSD	91	86	89	84
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160681AA

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635185
Reported: 03/18/2016 10:30

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260165	81	77	75	71
Blank	99	98	102	93
LCS	98	96	106	106
LCSD	97	94	99	96
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 16062SLI026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260165	88	95	74	88	95	105
8260166	95	92	75	97	110	99
8260167	86	88	80	94	103	91
8260168	88	84	78	93	111	103
8260169	88	89	74	97	104	90
8260170	90	99	81	96	96	86
8260171	89	92	86	97	103	94
Blank	97	100	99	97	103	98
LCS	101	104	100	100	103	97
MS	92	92	94	91	96	93
MSD	94	96	95	97	98	93
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16064SLB026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260172	96	99	82	94	97	61
8260174	96	98	83	95	100	64
Blank	100	102	100	100	105	65
LCS	99	100	92	98	99	65
MS	90	88	70	92	97	59
MSD	93	92	72	96	96	59
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16068SLD026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260173	105	86	108	95	105	103
8260175	105	98	118	98	103	98
8260177	93	86	93	96	101	87
Blank	96	92	129	96	98	94
LCS	108	104	123	99	98	101
MS	106	101	121	95	98	98
MSD	99	94	128	101	102	99
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: PCBs 8082A
Batch number: 160610026A

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260165	82	101
8260166	102	113
8260167	94	111
8260168	99	134
8260169	104	111
8260170	110	124
8260171	109	114
8260172	115	229*
8260173	109	186*
8260174	110	109
8260175	107	69
8260177	94	112
Blank	108	103
LCS	106	105
MS	97	107
MSD	101	102
Limits:	53-140	45-143

Analysis Name: Nitroaromatics/Amines 8330B(s)
Batch number: 160620006A

	3,4-Dinitrotoluene
8260172	96
8260173	77
8260174	92
8260175	91
Blank	105
LCS	100
LCSD	100
MS	96
MSD	89
Limits:	62-133

Analysis Name: Glycols in Soil
Batch number: 160630032A

	Tetramethylene glycol
8260165	73
8260166	70
8260167	70
8260168	67
8260169	73
8260170	71
8260171	74
8260172	65
8260173	61
8260174	63
8260175	66
8260177	64
Blank	85
LCS	118*
MS	106
MSD	100

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635185

Limits: 52-115

*- Outside of specification
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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635185 Sample # 8260165-77 1 of 2

COC # 491590

Client Information

Client: 10302 Norfolk Southern via Amec Foster Wheeler	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: John Jolly	P.O. #:
Sampler: Tanya Kinnard / Terrell Parker	Quote #:
State where samples were collected: GA	For Compliance: Yes ☑ No ☐

Matrix: Sediment ☐ Soil ☒ Water: Ground ☐ Potable ☐ NPDES ☐ Surface ☐ Other: ____

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Water	Other	Total # of Containers	VOCs 8260C Kit (0)	Metals, Moisture, 3546, SVOA (None)	Nitroaromatics/Moisture, Amines 8330B (None)	VOCs 8260C (trip blank) (0)	8015B ETHYLENE Glycol						Remarks
SS-13-0-2-022416	2-24-16	13:30	✓		✓			5	✓	✓			✓						Fed Ex 809160456696
SS-Dup-01-022416	2-24-16	12:00	✓		✓			5	✓	✓			✓						
SS-11-0-2-022416	2-24-16	12:45	✓		✓			6	✓	✓			✓						
SS-12-0-2-022416	2-24-16	13:00	✓		✓			5	✓	✓			✓						
SS-09-0-2-022416	2-24-16	12:00	✓		✓			6	✓	✓			✓						
SS-10-0-2-022416	2-24-16	12:30	✓		✓			6	✓	✓			✓						
SS-08-0-2-022416	2-24-16	12:15	✓		✓			6	✓	✓			✓						
MW-3-6-8-022416	2-24-16	09:30	✓		✓			6	✓	✓	✓		✓						
MW-3-2-4-022416	2-24-16	09:15	✓		✓			6	✓	✓	✓		✓						
MW-3-12-14-022416	2-24-16	09:47	✓		✓			6	✓	✓	✓		✓						

For Lab Use Only
FSC: ____
SCR#: ____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	2/24/16	1942			
			[signature]	2-25-16	950

EDD Required? Yes No
If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.5-1.6 °C

Environmental Analysis Request/Chain of Custody

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Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10302 Group # 1635185 Sample # 82601165-77 2 of 2 **COC #** 491592

Client Information

Client: 10302 Norfolk Southern Via Amec Foster Wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard/Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☑ No ☐

Matrix

Sediment ☐ Ground ☐ Surface ☐ Potable ☐ NPDES ☐ Soil ☒ Water ☐ Other: ____

Analysis Requested / Preservation Codes

For Lab Use Only

FSC:

SCR#:

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs 8260C Kit (0)	Metals 6020 + 7470 (Moist. Sieve & Zero) (7470)	Moisture + 8330B (0)	VOCs 8260C Water (TRP BTEX) (0)	8015 Ethylene Glycol (4°C)	Remarks
MW-3-0-2-022416	2-24-16	09:00	✓		✓			6	✓	✓	✓		✓	
TripBlank-022416	2-24-16	17:20	✓			✓		1				✓		Cooler #C25048
SS-07-0-2-022416	2-24-16	14:30	✓		✓			5	✓	✓			✓	

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Remarks: VOCs in Cooler #C25048 Balance of Soils in Cooler #C29139 80916075 6700 [illegible]

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	2/24/16	1942			
			[signature]	2-25-16	950

EDD Required? Yes No

If yes, format: EQuIS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.5-1.6 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 1115

Wendy Kozma

1635185

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Friday, February 26, 2016 6:43 PM
To: Wendy Kozma
Cc: Kinnard, Tanya R; Jolly, John
Subject: RE: Acknowledgement(1635185, Former Cohn Property/Columbus, GA, 02/25/2016 09:50:00)

Also, **CANCEL** the **explosives by 8330B** on the sample below (not marked on chain-of-custody):

8260177 SS-07-0-2-022416 Grab Soil

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: Hartness, Judy A
Sent: Friday, February 26, 2016 6:35 PM
To: WendyKozma@eurofinsUS.com
Cc: Kinnard, Tanya R <Tanya.Kinnard@amec.com>; Jolly, John <john.jolly@amec.com>
Subject: RE: Acknowledgement(1635185, Former Cohn Property/Columbus, GA, 02/25/2016 09:50:00)

Wendy, please correct sample ID:

8260170 S-10-0-2-022416 Grab Soil SS-10-0-2-022416

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 137467

Group Number(s): 1635785

Client: Amec

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	02/25/2016 9:50
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	1
Paperwork Enclosed:	Yes	Trip Blank Type:	SBS
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 12:02 on 02/25/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.6	DT	Wet	Y	Bagged	N
2	DT131	1.5	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: March 18, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 02/26/2016
Group Number: 1635319
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
MW-2-0-2-022516 Grab Soil	8260950
MW-2-2-4-022516 Grab Soil	8260951
MW-2-6-8-022516 Grab Soil	8260952
MW-2-12-14-022516 Grab Soil	8260953
MW-DUP-03-022516 Grab Soil	8260954
SS-01-0-2-022516 Grab Soil	8260955
SS-02-0-2-022516 Grab Soil	8260956
SS-03-0-2-022516 Grab Soil	8260957
SS-03-0-2-022516MS Grab Soil	8260958
SS-03-0-2-022516MSD Grab Soil	8260959
SS-03-0-2-022516DUP Grab Soil	8260960
SS-04-0-2-022516 Grab Soil	8260961
SS-05-0-2-022516 Grab Soil	8260962
SS-06-0-2-022516 Grab Soil	8260963
MW-1-0-2-022516 Grab Soil	8260964
MW-1-6-8-022516 Grab Soil	8260965
MW-1-12-14-022516 Grab Soil	8260966
Trip_Blank-022516A Sodium Bisulfate	8260967
SBO-04-0-2-022516 Grab Soil	8260968
SBO-04-6-8-022516 Grab Soil	8260969
SS-DUP-2-022516 Grab Soil	8260970
SBO-4-12-14-022516 Grab Soil	8260971
Trip_Blank-022516B Sodium Bisulfate	8260972
SS-14-0-2-022516 Grab Soil	8260973
SS-16-0-2-022516 Grab Soil	8260974
SS-17-0-2-022516 Grab Soil	8260975
SS-18-0-2-022516 Grab Soil	8260976
SS-19-0-2-022516 Grab Soil	8260977
SS-20-0-2-022516 Grab Soil	8260978

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Ferdinand Mayila
Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1635319

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8260950, 8260957, 8260963

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8260954, 8260955, 8260956, 8260970, 8260974, 8260977

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

Batch #: A160681AA (Sample number(s): 8260962, 8260968, 8260974-8260978 UNSPK: P262180)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methyl Tertiary Butyl Ether, Cyclohexane, Methyl Acetate, Methylcyclohexane, Chloromethane, Vinyl Chloride, 1,1-Dichloroethene, Methylene Chloride, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Chloroform, Benzene, Toluene, 1,1,2-Trichloroethane, 1,2-Dibromoethane, Styrene, Bromoform, Isopropylbenzene, 1,1,2,2-Tetrachloroethane, 1,2-Dichlorobenzene, Acetone, Carbon Disulfide, 2-Butanone, trans-1,3-Dichloropropene, 4-Methyl-2-pentanone, 2-Hexanone, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2,4-Trichlorobenzene, Xylene (Total)

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Methyl Tertiary Butyl Ether, Methyl Acetate, Methylcyclohexane, Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Methylene Chloride, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, 1,2-Dichloroethane, 1,1,2-Trichloroethane, Tetrachloroethene, Isopropylbenzene, 1,1,2,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, Acetone, 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone

Batch #: R160621AA (Sample number(s): 8260950, 8260957-8260959, 8260963 UNSPK: 8260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCSD

SW-846 8270D, GC/MS Semivolatiles

Sample #s: 8260950, 8260951, 8260954

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 8260976

The GC/MS semivolatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
Perylene-d12	-53%
Internal Standard - Re-analysis	% Recovery
Perylene-d12	- 52%

Sample #s: 8260977

The GC/MS semivolatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
Pyrene-d10	-50%
Perylene-d12	-58%
Internal Standard - Re-analysis	% Recovery
Perylene-d12	-57%

Batch #: 16064SLB026 (Sample number(s): 8260952-8260953, 8260956-8260959, 8260961-8260966, 8260968 UNSPK: 8260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2,4-Dimethylphenol

Batch #: 16064SLF026 (Sample number(s): 8260969-8260971, 8260973-8260978 UNSPK: P262180)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2-Chlorophenol, N-Nitroso-di-n-propylamine, 4-Chloro-3-methylphenol, Acenaphthene, 4-Nitrophenol, 2,4-Dinitrotoluene, Pentachlorophenol, Pyrene, 2,4,6-Trichlorophenol, 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, bis(2-Chloroethyl)ether, Hexachloroethane, Isophorone, bis(2-Chloroethoxy)methane, Hexachlorobutadiene, Hexachlorocyclopentadiene, Acenaphthylene, Dimethylphthalate, 2,6-Dinitrotoluene, Fluorene, 4-Chlorophenyl-phenylether, Diethylphthalate, N-Nitrosodiphenylamine, 4-Bromophenyl-phenylether, Phenanthrene, Anthracene, Di-n-butylphthalate, Fluoranthene, Butylbenzylphthalate, Benzo(a)anthracene, Chrysene, 3,3'-Dichlorobenzidine, bis(2-Ethylhexyl)phthalate, Di-n-octylphthalate, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, Benzo(g,h,i)perylene, Acetophenone, 4-Chloroaniline, 2,4,5-Trichlorophenol, 2-Nitroaniline, 3-Nitroaniline, Dibenzofuran, 4-Nitroaniline, Carbazole, Atrazine, Caprolactam, Benzaldehyde, 1,1'-Biphenyl, 2-Nitrophenol, 2,4-Dimethylphenol, 2-Chloronaphthalene, 2-Methylphenol, 2,2'-oxybis(1-Chloropropane), 2-Methylnaphthalene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 2-Chlorophenol, 4-Chloro-3-methylphenol, 4-Nitrophenol, 2,4-Dinitrotoluene, Pentachlorophenol, bis(2-Chloroethyl)ether, 2-Chloronaphthalene, Fluorene, 4-Chlorophenyl-phenylether, 4-Bromophenyl-phenylether, Benzo(a)pyrene, Acetophenone, 2-Methylphenol, 2,2'-oxybis(1-Chloropropane), 2,4,5-Trichlorophenol, 3-Nitroaniline, Atrazine, Caprolactam, 1,1'-Biphenyl

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Sample #s: 8260963, 8260978

Reporting limits were raised due to interference from the sample matrix.

Batch #: 160610026A (Sample number(s): 8260950-8260959 UNSPK: 8260957)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8260951

Batch #: 160640019A (Sample number(s): 8260961, 8260963-8260966, 8260968-8260971, 8260973-8260978 UNSPK: 8260961)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: PCB-1016

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8260973, 8260974

Batch #: 160680020A (Sample number(s): 8260962 UNSPK: P268010)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: PCB-1016

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) MS, MSD

SW-846 8330B Rev.2 Oct. 2006, Explosives

Batch #: 160620006A (Sample number(s): 8260950-8260952 UNSPK: P260046)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: RDX, Nitrobenzene, 3,5-Dinitroaniline, 1,3-Dinitrobenzene, 2-Nitrotoluene, 4-Nitrotoluene, 4-Amino-2,6-Dinitrotoluene, 3-Nitrotoluene, 2-Amino-4,6-Dinitrotoluene, 2,6-Dinitrotoluene, 2,4-Dinitrotoluene, Tetryl, 2,4,6-Trinitrotoluene, Nitroglycerin, PETN

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Tetryl, HMX, PETN

SW-846 6010C, Metals

Batch #: 160610637002 (Sample number(s): 8260950-8260966, 8260968 UNSPK: 8260957 BKG: 8260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Magnesium, Potassium, Lead, Manganese, Titanium, Zinc, Barium, Copper

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Calcium, Manganese, Zinc

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Aluminum, Barium, Manganese

Batch #: 160620637001 (Sample number(s): 8260969-8260971 UNSPK: P262914 BKG: P262914)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Copper

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Aluminum, Copper, Nickel

Batch #: 160630637002 (Sample number(s): 8260973-8260978 UNSPK: P262937 BKG: P262937)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Magnesium, Titanium

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Aluminum, Iron, Magnesium, Potassium, Sodium, Barium, Cobalt, Copper, Lead, Manganese, Titanium, Vanadium

SW-846 6020A, Metals

Sample #s: 8260950, 8260973, 8260978

Reporting limits were raised for metals due to interference from the sample matrix.

Batch #: 160610637002A (Sample number(s): 8260950-8260966, 8260968 UNSPK: 8260957 BKG: 8260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Arsenic, Beryllium, Chromium

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Antimony, Arsenic

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Cadmium, Thallium

Batch #: 160620637001A (Sample number(s): 8260969-8260971 UNSPK: P262914 BKG: P262914)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Thallium

Batch #: 160630637002A (Sample number(s): 8260973-8260978 UNSPK: P262937 BKG: P262937)

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Antimony, Arsenic, Chromium

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Arsenic, Beryllium, Thallium

SW-846 7471B, Metals

Batch #: 160630638001 (Sample number(s): 8260973-8260978 UNSPK: P263710 BKG: P263710)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Mercury

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Mercury

SM 2540 G-1997, Wet Chemistry

Batch #: 16077820012A (Sample number(s): 8260950-8260954, 8260964-8260966, 8260968-8260969, 8260971 BKG: 8260969)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture

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Analysis Report

Sample Description: MW-2-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260950
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 830	830	290	33.97
11995	Benzene	71-43-2	< 210	210	21	33.97
11995	Bromodichloromethane	75-27-4	< 210	210	41	33.97
11995	Bromoform	75-25-2	< 210	210	41	33.97
11995	Bromomethane	74-83-9	< 210	210	83	33.97
11995	2-Butanone	78-93-3	< 410	410	170	33.97
11995	Carbon Disulfide	75-15-0	< 210	210	41	33.97
11995	Carbon Tetrachloride	56-23-5	< 210	210	41	33.97
11995	Chlorobenzene	108-90-7	< 210	210	41	33.97
11995	Chloroethane	75-00-3	< 210	210	83	33.97
11995	Chloroform	67-66-3	< 210	210	41	33.97
11995	Chloromethane	74-87-3	< 210	210	83	33.97
11995	Cyclohexane	110-82-7	< 210	210	41	33.97
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 210	210	83	33.97
11995	Dibromochloromethane	124-48-1	< 210	210	41	33.97
11995	1,2-Dibromoethane	106-93-4	< 210	210	41	33.97
11995	1,2-Dichlorobenzene	95-50-1	< 210	210	41	33.97
11995	1,3-Dichlorobenzene	541-73-1	< 210	210	41	33.97
11995	1,4-Dichlorobenzene	106-46-7	< 210	210	41	33.97
11995	Dichlorodifluoromethane	75-71-8	< 210	210	83	33.97
11995	1,1-Dichloroethane	75-34-3	< 210	210	41	33.97
11995	1,2-Dichloroethane	107-06-2	< 210	210	41	33.97
11995	1,1-Dichloroethene	75-35-4	< 210	210	41	33.97
11995	cis-1,2-Dichloroethene	156-59-2	< 210	210	41	33.97
11995	trans-1,2-Dichloroethene	156-60-5	< 210	210	41	33.97
11995	1,2-Dichloropropane	78-87-5	< 210	210	41	33.97
11995	cis-1,3-Dichloropropene	10061-01-5	< 210	210	41	33.97
11995	trans-1,3-Dichloropropene	10061-02-6	< 210	210	41	33.97
11995	Ethylbenzene	100-41-4	730	210	41	33.97
11995	Freon 113	76-13-1	< 410	410	83	33.97
11995	2-Hexanone	591-78-6	< 410	410	120	33.97
11995	Isopropylbenzene	98-82-8	< 210	210	41	33.97
11995	Methyl Acetate	79-20-9	270	210	83	33.97
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 210	210	21	33.97
11995	4-Methyl-2-pentanone	108-10-1	< 410	410	120	33.97
11995	Methylcyclohexane	108-87-2	< 210	210	41	33.97
11995	Methylene Chloride	75-09-2	< 210	210	83	33.97
11995	Styrene	100-42-5	320	210	41	33.97
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 210	210	41	33.97
11995	Tetrachloroethene	127-18-4	< 210	210	41	33.97
11995	Toluene	108-88-3	8,400	210	41	33.97
11995	1,2,4-Trichlorobenzene	120-82-1	< 210	210	41	33.97
11995	1,1,1-Trichloroethane	71-55-6	< 210	210	41	33.97
11995	1,1,2-Trichloroethane	79-00-5	< 210	210	41	33.97
11995	Trichloroethene	79-01-6	< 210	210	41	33.97
11995	Trichlorofluoromethane	75-69-4	210	210	83	33.97
11995	Vinyl Chloride	75-01-4	< 210	210	41	33.97
11995	Xylene (Total)	1330-20-7	4,200	210	41	33.97

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260950
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 520	520	100	5
10726	Acenaphthylene	208-96-8	< 520	520	100	5
10726	Acetophenone	98-86-2	< 1,000	1,000	510	5
10726	Anthracene	120-12-7	620	520	100	5
10726	Atrazine	1912-24-9	< 5,100	5,100	1,000	5
10726	Benzaldehyde	100-52-7	< 5,100	5,100	2,000	5
10726	Benzo(a)anthracene	56-55-3	1,100	520	100	5
10726	Benzo(a)pyrene	50-32-8	2,300	520	100	5
10726	Benzo(b)fluoranthene	205-99-2	2,200	520	100	5
10726	Benzo(g,h,i)perylene	191-24-2	2,300	520	100	5
10726	Benzo(k)fluoranthene	207-08-9	1,100	520	100	5
10726	1,1'-Biphenyl	92-52-4	< 1,000	1,000	510	5
10726	4-Bromophenyl-phenylether	101-55-3	< 1,000	1,000	510	5
10726	Butylbenzylphthalate	85-68-7	< 5,100	5,100	2,000	5
10726	Di-n-butylphthalate	84-74-2	< 5,100	5,100	2,000	5
10726	Caprolactam	105-60-2	< 5,100	5,100	1,000	5
10726	Carbazole	86-74-8	< 1,000	1,000	510	5
10726	4-Chloro-3-methylphenol	59-50-7	< 1,000	1,000	510	5
10726	4-Chloroaniline	106-47-8	< 2,000	2,000	1,000	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 1,000	1,000	510	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 1,000	1,000	510	5
10726	2-Chloronaphthalene	91-58-7	< 1,000	1,000	200	5
10726	2-Chlorophenol	95-57-8	< 1,000	1,000	510	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 1,000	1,000	510	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1,000	1,000	510	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,400	520	100	5
10726	Dibenz(a,h)anthracene	53-70-3	< 520	520	100	5
10726	Dibenzofuran	132-64-9	< 1,000	1,000	510	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 10,000	10,000	3,000	5
10726	2,4-Dichlorophenol	120-83-2	< 1,000	1,000	510	5
10726	Diethylphthalate	84-66-2	< 5,100	5,100	2,000	5
10726	2,4-Dimethylphenol	105-67-9	< 1,000	1,000	510	5
10726	Dimethylphthalate	131-11-3	< 5,100	5,100	2,000	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 15,000	15,000	5,100	5
10726	2,4-Dinitrophenol	51-28-5	< 30,000	30,000	9,100	5
10726	2,4-Dinitrotoluene	121-14-2	< 5,100	5,100	2,000	5
10726	2,6-Dinitrotoluene	606-20-2	< 1,000	1,000	510	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	10,000	5,200	2,000	5
10726	Fluoranthene	206-44-0	1,800	520	100	5
10726	Fluorene	86-73-7	< 520	520	100	5
10726	Hexachlorobenzene	118-74-1	< 520	520	100	5
10726	Hexachlorobutadiene	87-68-3	< 1,000	1,000	510	5
10726	Hexachlorocyclopentadiene	77-47-4	< 15,000	15,000	5,100	5
10726	Hexachloroethane	67-72-1	< 5,100	5,100	1,000	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	520	100	5

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260950
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 1,000	1,000	510	5
10726	2-Methylnaphthalene	91-57-6	2,000	520	100	5
10726	2-Methylphenol	95-48-7	< 1,000	1,000	510	5
10726	4-Methylphenol	106-44-5	< 1,000	1,000	510	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,600	520	100	5
10726	2-Nitroaniline	88-74-4	< 1,000	1,000	510	5
10726	3-Nitroaniline	99-09-2	< 5,100	5,100	2,000	5
10726	4-Nitroaniline	100-01-6	< 5,100	5,100	2,000	5
10726	Nitrobenzene	98-95-3	< 1,000	1,000	510	5
10726	2-Nitrophenol	88-75-5	< 1,000	1,000	510	5
10726	4-Nitrophenol	100-02-7	< 15,000	15,000	5,100	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 1,000	1,000	510	5
10726	N-Nitrosodiphenylamine	86-30-6	< 1,000	1,000	510	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 5,100	5,100	2,000	5
10726	Pentachlorophenol	87-86-5	< 5,200	5,200	1,000	5
10726	Phenanthrene	85-01-8	1,900	520	100	5
10726	Phenol	108-95-2	< 1,000	1,000	510	5
10726	Pyrene	129-00-0	2,100	520	100	5
10726	2,4,5-Trichlorophenol	95-95-4	< 1,000	1,000	510	5
10726	2,4,6-Trichlorophenol	88-06-2	< 1,000	1,000	510	5
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	47	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	47	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 350	350	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 350	350	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	47	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	47	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	47	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	47	1
13413	HMX	2691-41-0	< 350	350	120	1
13413	Nitrobenzene	98-95-3	< 350	350	120	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	940	1
13413	2-Nitrotoluene	88-72-2	< 140	140	47	1
13413	3-Nitrotoluene	99-08-1	< 140	140	47	1
13413	4-Nitrotoluene	99-99-0	< 140	140	47	1
13413	PETN	78-11-5	< 2,800	2,800	940	1
13413	RDX	121-82-4	< 140	140	47	1
13413	Tetryl	479-45-8	< 350	350	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	47	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	47	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260950
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,000	1,000	220	50
10885	PCB-1221	11104-28-2	< 1,000	1,000	280	50
10885	PCB-1232	11141-16-5	< 1,000	1,000	490	50
10885	PCB-1242	53469-21-9	< 1,000	1,000	200	50
10885	PCB-1248	12672-29-6	8,000	1,000	200	50
10885	PCB-1254	11097-69-1	14,000	1,000	200	50
10885	PCB-1260	11096-82-5	< 1,000	1,000	300	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,300	203	38.9	5
06946	Barium	7440-39-3	851	1.02	0.122	1
01650	Calcium	7440-70-2	20,200	40.7	3.38	1
06952	Cobalt	7440-48-4	20.1	5.08	0.412	5
06953	Copper	7440-50-8	2,220	10.2	1.63	5
01654	Iron	7439-89-6	116,000	203	16.9	5
06955	Lead	7439-92-1	1,990	15.2	2.08	5
01657	Magnesium	7439-95-4	4,370	20.3	1.70	1
06958	Manganese	7439-96-5	933	1.02	0.122	1
06961	Nickel	7440-02-0	490	2.03	0.234	1
01662	Potassium	7440-09-7	1,910	102	17.1	1
01667	Sodium	7440-23-5	659	203	17.0	1
06970	Titanium	7440-32-6	630	10.2	1.88	5
06971	Vanadium	7440-62-2	32.0	5.08	1.17	5
06972	Zinc	7440-66-6	10,300	81.3	15.7	20
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	17.8	0.407	0.0671	2
06125	Arsenic	7440-38-2	16.7	0.813	0.152	2
06127	Beryllium	7440-41-7	0.348	0.203	0.0144	2
06128	Cadmium	7440-43-9	21.6	0.203	0.0467	2
06131	Chromium	7440-47-3	400	4.07	0.508	10
06141	Selenium	7782-49-2	0.959	0.813	0.102	2
06142	Silver	7440-22-4	0.805	0.203	0.0203	2
06145	Thallium	7440-28-0	< 1.02	1.02	0.152	10
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.816	0.235	0.0117	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	18.0	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-2-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260950
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 12:27	Anita M Dale	33.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 12:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 12:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 12:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016 15:44	Linda M Hartenstine	5
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016 10:08	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016 22:23	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016 14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 11:17	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 23:24	Cindy M Gehman	5
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 21:26	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 21:26	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 23:24	Cindy M Gehman	5
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 09:55	Katlin N Cataldi	5
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 23:24	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 23:24	Cindy M Gehman	5
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 21:26	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 21:26	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 21:26	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 21:26	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 21:26	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 23:24	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 23:24	Cindy M Gehman	5
06972	Zinc	SW-846 6010C	1	160610637002	03/05/2016 09:58	Katlin N Cataldi	20
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 11:10	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 11:10	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-2-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260950
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW020

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 11:10	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 11:10	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/09/2016 14:19	Deborah A Krady	10
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 11:10	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 11:10	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/09/2016 14:19	Deborah A Krady	10
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:05	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-2-4-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260951
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 13:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW224

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	62	25	9	1.11
11995	Benzene	71-43-2	< 6	6	0.6	1.11
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.11
11995	Bromoform	75-25-2	< 6	6	1	1.11
11995	Bromomethane	74-83-9	< 6	6	2	1.11
11995	2-Butanone	78-93-3	< 12	12	5	1.11
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.11
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.11
11995	Chlorobenzene	108-90-7	< 6	6	1	1.11
11995	Chloroethane	75-00-3	< 6	6	2	1.11
11995	Chloroform	67-66-3	< 6	6	1	1.11
11995	Chloromethane	74-87-3	< 6	6	2	1.11
11995	Cyclohexane	110-82-7	< 6	6	1	1.11
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	1.11
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.11
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.11
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.11
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.11
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.11
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	1.11
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.11
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.11
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.11
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.11
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.11
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.11
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.11
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.11
11995	Ethylbenzene	100-41-4	< 6	6	1	1.11
11995	Freon 113	76-13-1	< 12	12	2	1.11
11995	2-Hexanone	591-78-6	< 12	12	4	1.11
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.11
11995	Methyl Acetate	79-20-9	< 6	6	2	1.11
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.11
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	4	1.11
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.11
11995	Methylene Chloride	75-09-2	< 6	6	2	1.11
11995	Styrene	100-42-5	< 6	6	1	1.11
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.11
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.11
11995	Toluene	108-88-3	< 6	6	1	1.11
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.11
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.11
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.11
11995	Trichloroethene	79-01-6	< 6	6	1	1.11
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	1.11
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.11
11995	Xylene (Total)	1330-20-7	< 6	6	1	1.11
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 94	94	18	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-2-4-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260951
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 13:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW224

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 94	94	18	1
10726	Acetophenone	98-86-2	< 190	190	93	1
10726	Anthracene	120-12-7	200	94	18	1
10726	Atrazine	1912-24-9	< 930	930	190	1
10726	Benzaldehyde	100-52-7	< 930	930	370	1
10726	Benzo(a)anthracene	56-55-3	460	94	18	1
10726	Benzo(a)pyrene	50-32-8	530	94	18	1
10726	Benzo(b)fluoranthene	205-99-2	610	94	18	1
10726	Benzo(g,h,i)perylene	191-24-2	400	94	18	1
10726	Benzo(k)fluoranthene	207-08-9	320	94	18	1
10726	1,1'-Biphenyl	92-52-4	< 190	190	93	1
10726	4-Bromophenyl-phenylether	101-55-3	< 190	190	93	1
10726	Butylbenzylphthalate	85-68-7	< 930	930	370	1
10726	Di-n-butylphthalate	84-74-2	< 930	930	370	1
10726	Caprolactam	105-60-2	< 930	930	190	1
10726	Carbazole	86-74-8	< 190	190	93	1
10726	4-Chloro-3-methylphenol	59-50-7	< 190	190	93	1
10726	4-Chloroaniline	106-47-8	< 370	370	190	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 190	190	93	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 190	190	93	1
10726	2-Chloronaphthalene	91-58-7	< 180	180	37	1
10726	2-Chlorophenol	95-57-8	< 190	190	93	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 190	190	93	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 190	190	93	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	590	94	18	1
10726	Dibenz(a,h)anthracene	53-70-3	< 94	94	18	1
10726	Dibenzofuran	132-64-9	< 190	190	93	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,900	1,900	560	1
10726	2,4-Dichlorophenol	120-83-2	< 190	190	93	1
10726	Diethylphthalate	84-66-2	< 930	930	370	1
10726	2,4-Dimethylphenol	105-67-9	< 190	190	93	1
10726	Dimethylphthalate	131-11-3	< 930	930	370	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,800	2,800	930	1
10726	2,4-Dinitrophenol	51-28-5	< 5,600	5,600	1,700	1
10726	2,4-Dinitrotoluene	121-14-2	< 930	930	370	1
10726	2,6-Dinitrotoluene	606-20-2	< 190	190	93	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	2,200	940	370	1
10726	Fluoranthene	206-44-0	820	94	18	1
10726	Fluorene	86-73-7	< 94	94	18	1
10726	Hexachlorobenzene	118-74-1	< 94	94	18	1
10726	Hexachlorobutadiene	87-68-3	< 190	190	93	1
10726	Hexachlorocyclopentadiene	77-47-4	< 2,800	2,800	930	1
10726	Hexachloroethane	67-72-1	< 930	930	190	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	300	94	18	1
10726	Isophorone	78-59-1	< 190	190	93	1
10726	2-Methylnaphthalene	91-57-6	270	94	18	1
10726	2-Methylphenol	95-48-7	< 190	190	93	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-2-4-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260951
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 13:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW224

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 190	190	93	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	230	94	18	1
10726	2-Nitroaniline	88-74-4	< 190	190	93	1
10726	3-Nitroaniline	99-09-2	< 930	930	370	1
10726	4-Nitroaniline	100-01-6	< 930	930	370	1
10726	Nitrobenzene	98-95-3	< 190	190	93	1
10726	2-Nitrophenol	88-75-5	< 190	190	93	1
10726	4-Nitrophenol	100-02-7	< 2,800	2,800	930	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 190	190	93	1
10726	N-Nitrosodiphenylamine	86-30-6	< 190	190	93	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 930	930	370	1
10726	Pentachlorophenol	87-86-5	< 940	940	190	1
10726	Phenanthrene	85-01-8	740	94	18	1
10726	Phenol	108-95-2	< 190	190	93	1
10726	Pyrene	129-00-0	970	94	18	1
10726	2,4,5-Trichlorophenol	95-95-4	< 190	190	93	1
10726	2,4,6-Trichlorophenol	88-06-2	< 190	190	93	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	43	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	43	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 320	320	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 320	320	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	43	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	43	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	43	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	43	1
13413	HMX	2691-41-0	< 320	320	110	1
13413	Nitrobenzene	98-95-3	< 320	320	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	860	1
13413	2-Nitrotoluene	88-72-2	< 130	130	43	1
13413	3-Nitrotoluene	99-08-1	< 130	130	43	1
13413	4-Nitrotoluene	99-99-0	< 130	130	43	1
13413	PETN	78-11-5	< 2,600	2,600	860	1
13413	RDX	121-82-4	< 130	130	43	1
13413	Tetryl	479-45-8	< 320	320	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	43	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	43	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 940	940	200	50

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-2-4-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260951
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 13:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW224

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 940	940	260	50
10885	PCB-1232	11141-16-5	< 940	940	440	50
10885	PCB-1242	53469-21-9	< 940	940	180	50
10885	PCB-1248	12672-29-6	< 940	940	180	50
10885	PCB-1254	11097-69-1	3,600	940	180	50
10885	PCB-1260	11096-82-5	1,500	940	270	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	14,000	42.9	8.21	1
06946	Barium	7440-39-3	383	1.07	0.129	1
01650	Calcium	7440-70-2	38,300	42.9	3.57	1
06952	Cobalt	7440-48-4	8.67	1.07	0.0868	1
06953	Copper	7440-50-8	258	2.14	0.343	1
01654	Iron	7439-89-6	47,900	214	17.8	5
06955	Lead	7439-92-1	1,170	16.1	2.20	5
01657	Magnesium	7439-95-4	6,070	21.4	1.79	1
06958	Manganese	7439-96-5	648	1.07	0.129	1
06961	Nickel	7440-02-0	92.0	2.14	0.246	1
01662	Potassium	7440-09-7	3,280	107	18.0	1
01667	Sodium	7440-23-5	644	214	17.9	1
06970	Titanium	7440-32-6	755	2.14	0.396	1
06971	Vanadium	7440-62-2	29.3	1.07	0.246	1
06972	Zinc	7440-66-6	2,820	21.4	4.12	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	3.60	0.429	0.0707	2
06125	Arsenic	7440-38-2	16.8	0.857	0.161	2
06127	Beryllium	7440-41-7	1.02	0.214	0.0152	2
06128	Cadmium	7440-43-9	18.2	0.214	0.0493	2
06131	Chromium	7440-47-3	76.7	0.857	0.107	2
06141	Selenium	7782-49-2	0.888	0.857	0.107	2
06142	Silver	7440-22-4	0.355	0.214	0.0214	2
06145	Thallium	7440-28-0	0.282	0.214	0.0321	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.219	0.219	0.0109	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-2-4-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260951
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 13:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW224

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	11:59	Jennifer K Howe	1.11
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	13:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	16:07	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016	10:44	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016	22:35	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016	12:29	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016	13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	10:01	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	23:30	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	23:30	Cindy M Gehman	5
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	21:30	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016	23:30	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:13	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:13	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:13	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:13	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:13	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:13	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:13	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-2-4-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260951
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 13:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW224

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:13	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:07	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260952
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW026

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 20	20	7	0.88
11995	Benzene	71-43-2	< 5	5	0.5	0.88
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.88
11995	Bromoform	75-25-2	< 5	5	1	0.88
11995	Bromomethane	74-83-9	< 5	5	2	0.88
11995	2-Butanone	78-93-3	< 10	10	4	0.88
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.88
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.88
11995	Chlorobenzene	108-90-7	< 5	5	1	0.88
11995	Chloroethane	75-00-3	< 5	5	2	0.88
11995	Chloroform	67-66-3	< 5	5	1	0.88
11995	Chloromethane	74-87-3	< 5	5	2	0.88
11995	Cyclohexane	110-82-7	< 5	5	1	0.88
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.88
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.88
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.88
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.88
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.88
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.88
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.88
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.88
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.88
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.88
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.88
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.88
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.88
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.88
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.88
11995	Ethylbenzene	100-41-4	< 5	5	1	0.88
11995	Freon 113	76-13-1	< 10	10	2	0.88
11995	2-Hexanone	591-78-6	< 10	10	3	0.88
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.88
11995	Methyl Acetate	79-20-9	< 5	5	2	0.88
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.88
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.88
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.88
11995	Methylene Chloride	75-09-2	< 5	5	2	0.88
11995	Styrene	100-42-5	< 5	5	1	0.88
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.88
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.88
11995	Toluene	108-88-3	< 5	5	1	0.88
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.88
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.88
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.88
11995	Trichloroethene	79-01-6	< 5	5	1	0.88
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.88
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.88
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.88
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260952
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW026

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	76	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	76	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	76	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 76	76	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 38	38	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 38	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	76	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	76	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 570	570	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	76	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	76	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 570	570	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1
10726	2-Methylphenol	95-48-7	< 38	38	19	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260952
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW026

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	76	1
10726	4-Nitroaniline	100-01-6	< 190	190	76	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 570	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	76	1
10726	Pentachlorophenol	87-86-5	< 190	190	38	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	880	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,600	2,600	880	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1
10885	PCB-1221	11104-28-2	< 19	19	5.3	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260952
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW026

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 19	19	9.1	1
10885	PCB-1242	53469-21-9	< 19	19	3.8	1
10885	PCB-1248	12672-29-6	< 19	19	3.8	1
10885	PCB-1254	11097-69-1	< 19	19	3.8	1
10885	PCB-1260	11096-82-5	< 19	19	5.6	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	18,800	40.2	7.70	1
06946	Barium	7440-39-3	57.6	1.00	0.121	1
01650	Calcium	7440-70-2	621	40.2	3.35	1
06952	Cobalt	7440-48-4	6.79	1.00	0.0814	1
06953	Copper	7440-50-8	23.6	2.01	0.322	1
01654	Iron	7439-89-6	19,800	40.2	3.35	1
06955	Lead	7439-92-1	7.03	3.01	0.412	1
01657	Magnesium	7439-95-4	2,380	20.1	1.68	1
06958	Manganese	7439-96-5	154	1.00	0.121	1
06961	Nickel	7440-02-0	7.33	2.01	0.231	1
01662	Potassium	7440-09-7	1,910	100	16.9	1
01667	Sodium	7440-23-5	< 201	201	16.8	1
06970	Titanium	7440-32-6	997	2.01	0.372	1
06971	Vanadium	7440-62-2	42.6	1.00	0.231	1
06972	Zinc	7440-66-6	34.1	4.02	0.774	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.402	0.402	0.0663	2
06125	Arsenic	7440-38-2	1.85	0.804	0.151	2
06127	Beryllium	7440-41-7	0.602	0.201	0.0143	2
06128	Cadmium	7440-43-9	< 0.201	0.201	0.0462	2
06131	Chromium	7440-47-3	20.0	0.804	0.100	2
06141	Selenium	7782-49-2	< 0.804	0.804	0.100	2
06142	Silver	7440-22-4	< 0.201	0.201	0.0201	2
06145	Thallium	7440-28-0	0.253	0.201	0.0301	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.219	0.219	0.0110	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260952
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW026

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	12:22	Jennifer K Howe	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	14:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	14:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	14:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/06/2016	21:46	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016	12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/05/2016	11:21	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016	23:09	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620006A	03/02/2016	14:30	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016	12:46	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016	13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	08:39	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/05/2016	08:39	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016	21:34	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:16	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:16	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:16	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:16	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:16	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:16	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:16	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-2-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260952
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW026

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:16	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:09	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260953
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW212

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 22	22	8	1.02
11995	Benzene	71-43-2	< 5	5	0.5	1.02
11995	Bromodichloromethane	75-27-4	< 5	5	1	1.02
11995	Bromoform	75-25-2	< 5	5	1	1.02
11995	Bromomethane	74-83-9	< 5	5	2	1.02
11995	2-Butanone	78-93-3	< 11	11	4	1.02
11995	Carbon Disulfide	75-15-0	< 5	5	1	1.02
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1.02
11995	Chlorobenzene	108-90-7	< 5	5	1	1.02
11995	Chloroethane	75-00-3	< 5	5	2	1.02
11995	Chloroform	67-66-3	< 5	5	1	1.02
11995	Chloromethane	74-87-3	< 5	5	2	1.02
11995	Cyclohexane	110-82-7	< 5	5	1	1.02
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1.02
11995	Dibromochloromethane	124-48-1	< 5	5	1	1.02
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1.02
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1.02
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1.02
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1.02
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1.02
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1.02
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1.02
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1.02
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1.02
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1.02
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1.02
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1.02
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1.02
11995	Ethylbenzene	100-41-4	< 5	5	1	1.02
11995	Freon 113	76-13-1	< 11	11	2	1.02
11995	2-Hexanone	591-78-6	< 11	11	3	1.02
11995	Isopropylbenzene	98-82-8	< 5	5	1	1.02
11995	Methyl Acetate	79-20-9	< 5	5	2	1.02
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1.02
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.02
11995	Methylcyclohexane	108-87-2	< 5	5	1	1.02
11995	Methylene Chloride	75-09-2	< 5	5	2	1.02
11995	Styrene	100-42-5	< 5	5	1	1.02
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1.02
11995	Tetrachloroethene	127-18-4	< 5	5	1	1.02
11995	Toluene	108-88-3	< 5	5	1	1.02
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1.02
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1.02
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1.02
11995	Trichloroethene	79-01-6	< 5	5	1	1.02
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1.02
11995	Vinyl Chloride	75-01-4	< 5	5	1	1.02
11995	Xylene (Total)	1330-20-7	< 5	5	1	1.02
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	3	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260953
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW212

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	3	1
10726	Acetophenone	98-86-2	< 35	35	17	1
10726	Anthracene	120-12-7	< 18	18	3	1
10726	Atrazine	1912-24-9	< 170	170	35	1
10726	Benzaldehyde	100-52-7	< 170	170	69	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	3	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	3	1
10726	1,1'-Biphenyl	92-52-4	< 35	35	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 35	35	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	69	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	69	1
10726	Caprolactam	105-60-2	< 170	170	35	1
10726	Carbazole	86-74-8	< 35	35	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 35	35	17	1
10726	4-Chloroaniline	106-47-8	< 69	69	35	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 35	35	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 35	35	17	1
10726	2-Chloronaphthalene	91-58-7	< 34	34	7	1
10726	2-Chlorophenol	95-57-8	< 35	35	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 35	35	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 35	35	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	3	1
10726	Dibenzofuran	132-64-9	< 35	35	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 350	350	100	1
10726	2,4-Dichlorophenol	120-83-2	< 35	35	17	1
10726	Diethylphthalate	84-66-2	< 170	170	69	1
10726	2,4-Dimethylphenol	105-67-9	< 35	35	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	69	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 520	520	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	310	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	69	1
10726	2,6-Dinitrotoluene	606-20-2	< 35	35	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	69	1
10726	Fluoranthene	206-44-0	< 18	18	3	1
10726	Fluorene	86-73-7	< 18	18	3	1
10726	Hexachlorobenzene	118-74-1	< 18	18	3	1
10726	Hexachlorobutadiene	87-68-3	< 35	35	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 520	520	170	1
10726	Hexachloroethane	67-72-1	< 170	170	35	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	3	1
10726	Isophorone	78-59-1	< 35	35	17	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	3	1
10726	2-Methylphenol	95-48-7	< 35	35	17	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260953
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW212

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 35	35	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	3	1
10726	2-Nitroaniline	88-74-4	< 35	35	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	69	1
10726	4-Nitroaniline	100-01-6	< 170	170	69	1
10726	Nitrobenzene	98-95-3	< 35	35	17	1
10726	2-Nitrophenol	88-75-5	< 35	35	17	1
10726	4-Nitrophenol	100-02-7	< 520	520	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 35	35	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 35	35	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	69	1
10726	Pentachlorophenol	87-86-5	< 180	180	35	1
10726	Phenanthrene	85-01-8	< 18	18	3	1
10726	Phenol	108-95-2	< 35	35	17	1
10726	Pyrene	129-00-0	< 18	18	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 35	35	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 35	35	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	830	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,500	2,500	830	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.7	1
10885	PCB-1221	11104-28-2	< 18	18	4.8	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260953
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW212

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 18	18	8.3	1
10885	PCB-1242	53469-21-9	< 18	18	3.4	1
10885	PCB-1248	12672-29-6	< 18	18	3.4	1
10885	PCB-1254	11097-69-1	< 18	18	3.4	1
10885	PCB-1260	11096-82-5	< 18	18	5.1	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.3	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,110	39.7	7.60	1
06946	Barium	7440-39-3	17.2	0.992	0.119	1
01650	Calcium	7440-70-2	184	39.7	3.30	1
06952	Cobalt	7440-48-4	1.80	0.992	0.0804	1
06953	Copper	7440-50-8	5.77	1.98	0.317	1
01654	Iron	7439-89-6	4,570	39.7	3.30	1
06955	Lead	7439-92-1	< 2.98	2.98	0.407	1
01657	Magnesium	7439-95-4	558	19.8	1.66	1
06958	Manganese	7439-96-5	82.3	0.992	0.119	1
06961	Nickel	7440-02-0	< 1.98	1.98	0.228	1
01662	Potassium	7440-09-7	456	99.2	16.7	1
01667	Sodium	7440-23-5	< 198	198	16.6	1
06970	Titanium	7440-32-6	254	1.98	0.367	1
06971	Vanadium	7440-62-2	9.65	0.992	0.228	1
06972	Zinc	7440-66-6	7.33	3.97	0.764	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.397	0.397	0.0655	2
06125	Arsenic	7440-38-2	< 0.794	0.794	0.149	2
06127	Beryllium	7440-41-7	< 0.198	0.198	0.0141	2
06128	Cadmium	7440-43-9	< 0.198	0.198	0.0456	2
06131	Chromium	7440-47-3	5.75	0.794	0.0992	2
06141	Selenium	7782-49-2	< 0.794	0.794	0.0992	2
06142	Silver	7440-22-4	< 0.198	0.198	0.0198	2
06145	Thallium	7440-28-0	< 0.198	0.198	0.0298	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.205	0.205	0.0103	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260953
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW212

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	12:44	Jennifer K Howe	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	14:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	14:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	14:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/06/2016	22:12	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016	12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	15:38	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016	23:32	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016	13:04	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016	13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	08:45	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	21:37	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/05/2016	08:45	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:19	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:19	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:19	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:19	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:19	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:19	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:19	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-2-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260953
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 14:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW212

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:19	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:11	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-DUP-03-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260954
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MWFD3

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	240	26	9	1.12
11995	Benzene	71-43-2	7	6	0.6	1.12
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.12
11995	Bromoform	75-25-2	< 6	6	1	1.12
11995	Bromomethane	74-83-9	< 6	6	3	1.12
11995	2-Butanone	78-93-3	22	13	5	1.12
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.12
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.12
11995	Chlorobenzene	108-90-7	< 6	6	1	1.12
11995	Chloroethane	75-00-3	< 6	6	3	1.12
11995	Chloroform	67-66-3	< 6	6	1	1.12
11995	Chloromethane	74-87-3	< 6	6	3	1.12
11995	Cyclohexane	110-82-7	< 6	6	1	1.12
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	3	1.12
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.12
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.12
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.12
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.12
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.12
11995	Dichlorodifluoromethane	75-71-8	< 6	6	3	1.12
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.12
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.12
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.12
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.12
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.12
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.12
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.12
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.12
11995	Ethylbenzene	100-41-4	< 6	6	1	1.12
11995	Freon 113	76-13-1	< 13	13	3	1.12
11995	2-Hexanone	591-78-6	< 13	13	4	1.12
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.12
11995	Methyl Acetate	79-20-9	< 6	6	3	1.12
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.12
11995	4-Methyl-2-pentanone	108-10-1	< 13	13	4	1.12
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.12
11995	Methylene Chloride	75-09-2	< 6	6	3	1.12
11995	Styrene	100-42-5	< 6	6	1	1.12
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.12
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.12
11995	Toluene	108-88-3	9	6	1	1.12
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.12
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.12
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.12
11995	Trichloroethene	79-01-6	< 6	6	1	1.12
11995	Trichlorofluoromethane	75-69-4	< 6	6	3	1.12
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.12
11995	Xylene (Total)	1330-20-7	9	6	1	1.12

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: MW-DUP-03-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260954
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MWFD3

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	acceptance limits, indicating a matrix effect. The data is reported from the initial trial.					
GC/MS Semivolatiles		**SW-846 8270D**	**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 480	480	93	5
10726	Acenaphthylene	208-96-8	< 480	480	93	5
10726	Acetophenone	98-86-2	< 940	940	470	5
10726	Anthracene	120-12-7	< 480	480	93	5
10726	Atrazine	1912-24-9	< 4,700	4,700	940	5
10726	Benzaldehyde	100-52-7	< 4,700	4,700	1,900	5
10726	Benzo(a)anthracene	56-55-3	660	480	93	5
10726	Benzo(a)pyrene	50-32-8	960	480	93	5
10726	Benzo(b)fluoranthene	205-99-2	2,000	480	93	5
10726	Benzo(g,h,i)perylene	191-24-2	1,400	480	93	5
10726	Benzo(k)fluoranthene	207-08-9	720	480	93	5
10726	1,1'-Biphenyl	92-52-4	< 940	940	470	5
10726	4-Bromophenyl-phenylether	101-55-3	< 940	940	470	5
10726	Butylbenzylphthalate	85-68-7	< 4,700	4,700	1,900	5
10726	Di-n-butylphthalate	84-74-2	< 4,700	4,700	1,900	5
10726	Caprolactam	105-60-2	< 4,700	4,700	940	5
10726	Carbazole	86-74-8	< 940	940	470	5
10726	4-Chloro-3-methylphenol	59-50-7	< 940	940	470	5
10726	4-Chloroaniline	106-47-8	< 1,900	1,900	940	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 940	940	470	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 940	940	470	5
10726	2-Chloronaphthalene	91-58-7	< 930	930	190	5
10726	2-Chlorophenol	95-57-8	< 940	940	470	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 940	940	470	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 940	940	470	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,100	480	93	5
10726	Dibenz(a,h)anthracene	53-70-3	< 480	480	93	5
10726	Dibenzofuran	132-64-9	< 940	940	470	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 9,400	9,400	2,800	5
10726	2,4-Dichlorophenol	120-83-2	< 940	940	470	5
10726	Diethylphthalate	84-66-2	< 4,700	4,700	1,900	5
10726	2,4-Dimethylphenol	105-67-9	< 940	940	470	5
10726	Dimethylphthalate	131-11-3	< 4,700	4,700	1,900	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 14,000	14,000	4,700	5
10726	2,4-Dinitrophenol	51-28-5	< 28,000	28,000	8,400	5
10726	2,4-Dinitrotoluene	121-14-2	< 4,700	4,700	1,900	5
10726	2,6-Dinitrotoluene	606-20-2	< 940	940	470	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	8,100	4,800	1,900	5
10726	Fluoranthene	206-44-0	1,000	480	93	5
10726	Fluorene	86-73-7	< 480	480	93	5
10726	Hexachlorobenzene	118-74-1	< 480	480	93	5
10726	Hexachlorobutadiene	87-68-3	< 940	940	470	5
10726	Hexachlorocyclopentadiene	77-47-4	< 14,000	14,000	4,700	5
10726	Hexachloroethane	67-72-1	< 4,700	4,700	940	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	710	480	93	5

*=This limit was used in the evaluation of the final result

Sample Description: MW-DUP-03-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260954
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MWFD3

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 940	940	470	5
10726	2-Methylnaphthalene	91-57-6	2,100	480	93	5
10726	2-Methylphenol	95-48-7	< 940	940	470	5
10726	4-Methylphenol	106-44-5	< 940	940	470	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,500	480	93	5
10726	2-Nitroaniline	88-74-4	< 940	940	470	5
10726	3-Nitroaniline	99-09-2	< 4,700	4,700	1,900	5
10726	4-Nitroaniline	100-01-6	< 4,700	4,700	1,900	5
10726	Nitrobenzene	98-95-3	< 940	940	470	5
10726	2-Nitrophenol	88-75-5	< 940	940	470	5
10726	4-Nitrophenol	100-02-7	< 14,000	14,000	4,700	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 940	940	470	5
10726	N-Nitrosodiphenylamine	86-30-6	< 940	940	470	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 4,700	4,700	1,900	5
10726	Pentachlorophenol	87-86-5	< 4,800	4,800	940	5
10726	Phenanthrene	85-01-8	1,200	480	93	5
10726	Phenol	108-95-2	< 940	940	470	5
10726	Pyrene	129-00-0	1,600	480	93	5
10726	2,4,5-Trichlorophenol	95-95-4	< 940	940	470	5
10726	2,4,6-Trichlorophenol	88-06-2	< 940	940	470	5
Reporting limits were raised due to interference from the sample matrix.						
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	880	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,600	2,600	880	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-DUP-03-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260954
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MWFD3

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	400	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	510	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	900	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	370	100
10885	PCB-1248	12672-29-6	< 1,900	1,900	370	100
10885	PCB-1254	11097-69-1	12,000	1,900	370	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	550	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	11,700	207	39.6	5
06946	Barium	7440-39-3	898	1.03	0.124	1
01650	Calcium	7440-70-2	18,100	41.4	3.44	1
06952	Cobalt	7440-48-4	17.4	5.17	0.419	5
06953	Copper	7440-50-8	943	10.3	1.65	5
01654	Iron	7439-89-6	117,000	207	17.2	5
06955	Lead	7439-92-1	1,490	15.5	2.12	5
01657	Magnesium	7439-95-4	4,570	20.7	1.73	1
06958	Manganese	7439-96-5	1,100	1.03	0.124	1
06961	Nickel	7440-02-0	366	2.07	0.238	1
01662	Potassium	7440-09-7	2,330	103	17.4	1
01667	Sodium	7440-23-5	601	207	17.3	1
06970	Titanium	7440-32-6	727	10.3	1.91	5
06971	Vanadium	7440-62-2	122	5.17	1.19	5
06972	Zinc	7440-66-6	25,000	207	39.8	50
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	21.4	0.414	0.0683	2
06125	Arsenic	7440-38-2	14.5	0.827	0.155	2
06127	Beryllium	7440-41-7	0.259	0.207	0.0147	2
06128	Cadmium	7440-43-9	20.9	0.207	0.0476	2
06131	Chromium	7440-47-3	295	0.827	0.103	2
06141	Selenium	7782-49-2	0.836	0.827	0.103	2
06142	Silver	7440-22-4	0.879	0.207	0.0207	2
06145	Thallium	7440-28-0	< 0.207	0.207	0.0310	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.657	0.219	0.0110	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-DUP-03-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260954
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MWFD3

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	13:07	Jennifer K Howe	1.12
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	12:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	16:30	Linda M Hartenstine	5
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	16:15	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016	20:22	Jessica L Miller	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016	09:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016	13:22	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016	13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	23:34	Cindy M Gehman	5
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	21:40	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	21:40	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	23:34	Cindy M Gehman	5
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	10:05	Katlin N Cataldi	5
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	23:34	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	23:34	Cindy M Gehman	5
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	21:40	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	21:40	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	21:40	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	21:40	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	21:40	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	23:34	Cindy M Gehman	5
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	23:34	Cindy M Gehman	5
06972	Zinc	SW-846 6010C	1	160610637002	03/07/2016	15:37	Eric L Eby	50
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:22	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:22	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:22	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:22	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:22	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:22	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:22	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-DUP-03-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260954
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MWFD3

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:22	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:13	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-01-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260955
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS010

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 28	28	10	1.15
11995	Benzene	71-43-2	< 7	7	0.7	1.15
11995	Bromodichloromethane	75-27-4	< 7	7	1	1.15
11995	Bromoform	75-25-2	< 7	7	1	1.15
11995	Bromomethane	74-83-9	< 7	7	3	1.15
11995	2-Butanone	78-93-3	< 14	14	6	1.15
11995	Carbon Disulfide	75-15-0	< 7	7	1	1.15
11995	Carbon Tetrachloride	56-23-5	< 7	7	1	1.15
11995	Chlorobenzene	108-90-7	< 7	7	1	1.15
11995	Chloroethane	75-00-3	< 7	7	3	1.15
11995	Chloroform	67-66-3	< 7	7	1	1.15
11995	Chloromethane	74-87-3	< 7	7	3	1.15
11995	Cyclohexane	110-82-7	< 7	7	1	1.15
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 7	7	3	1.15
11995	Dibromochloromethane	124-48-1	< 7	7	1	1.15
11995	1,2-Dibromoethane	106-93-4	< 7	7	1	1.15
11995	1,2-Dichlorobenzene	95-50-1	< 7	7	1	1.15
11995	1,3-Dichlorobenzene	541-73-1	< 7	7	1	1.15
11995	1,4-Dichlorobenzene	106-46-7	< 7	7	1	1.15
11995	Dichlorodifluoromethane	75-71-8	< 7	7	3	1.15
11995	1,1-Dichloroethane	75-34-3	< 7	7	1	1.15
11995	1,2-Dichloroethane	107-06-2	< 7	7	1	1.15
11995	1,1-Dichloroethene	75-35-4	< 7	7	1	1.15
11995	cis-1,2-Dichloroethene	156-59-2	< 7	7	1	1.15
11995	trans-1,2-Dichloroethene	156-60-5	< 7	7	1	1.15
11995	1,2-Dichloropropane	78-87-5	< 7	7	1	1.15
11995	cis-1,3-Dichloropropene	10061-01-5	< 7	7	1	1.15
11995	trans-1,3-Dichloropropene	10061-02-6	< 7	7	1	1.15
11995	Ethylbenzene	100-41-4	< 7	7	1	1.15
11995	Freon 113	76-13-1	< 14	14	3	1.15
11995	2-Hexanone	591-78-6	< 14	14	4	1.15
11995	Isopropylbenzene	98-82-8	< 7	7	1	1.15
11995	Methyl Acetate	79-20-9	< 7	7	3	1.15
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 7	7	0.7	1.15
11995	4-Methyl-2-pentanone	108-10-1	< 14	14	4	1.15
11995	Methylcyclohexane	108-87-2	< 7	7	1	1.15
11995	Methylene Chloride	75-09-2	< 7	7	3	1.15
11995	Styrene	100-42-5	< 7	7	1	1.15
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 7	7	1	1.15
11995	Tetrachloroethene	127-18-4	21	7	1	1.15
11995	Toluene	108-88-3	< 7	7	1	1.15
11995	1,2,4-Trichlorobenzene	120-82-1	< 7	7	1	1.15
11995	1,1,1-Trichloroethane	71-55-6	< 7	7	1	1.15
11995	1,1,2-Trichloroethane	79-00-5	< 7	7	1	1.15
11995	Trichloroethene	79-01-6	< 7	7	1	1.15
11995	Trichlorofluoromethane	75-69-4	< 7	7	3	1.15
11995	Vinyl Chloride	75-01-4	< 7	7	1	1.15
11995	Xylene (Total)	1330-20-7	< 7	7	1	1.15

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: SS-01-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260955
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS010

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	acceptance limits, indicating a matrix effect. The data is reported from the initial trial.					
GC/MS Semivolatiles		**SW-846 8270D**	**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 21	21	4	1
10726	Acenaphthylene	208-96-8	45	21	4	1
10726	Acetophenone	98-86-2	82	41	21	1
10726	Anthracene	120-12-7	65	21	4	1
10726	Atrazine	1912-24-9	< 210	210	41	1
10726	Benzaldehyde	100-52-7	220	210	82	1
10726	Benzo(a)anthracene	56-55-3	200	21	4	1
10726	Benzo(a)pyrene	50-32-8	160	21	4	1
10726	Benzo(b)fluoranthene	205-99-2	230	21	4	1
10726	Benzo(g,h,i)perylene	191-24-2	180	21	4	1
10726	Benzo(k)fluoranthene	207-08-9	85	21	4	1
10726	1,1'-Biphenyl	92-52-4	77	41	21	1
10726	4-Bromophenyl-phenylether	101-55-3	< 41	41	21	1
10726	Butylbenzylphthalate	85-68-7	< 210	210	82	1
10726	Di-n-butylphthalate	84-74-2	< 210	210	82	1
10726	Caprolactam	105-60-2	< 210	210	41	1
10726	Carbazole	86-74-8	67	41	21	1
10726	4-Chloro-3-methylphenol	59-50-7	< 41	41	21	1
10726	4-Chloroaniline	106-47-8	< 82	82	41	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 41	41	21	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 41	41	21	1
10726	2-Chloronaphthalene	91-58-7	< 41	41	8	1
10726	2-Chlorophenol	95-57-8	< 41	41	21	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 41	41	21	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 41	41	21	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	360	21	4	1
10726	Dibenz(a,h)anthracene	53-70-3	50	21	4	1
10726	Dibenzofuran	132-64-9	290	41	21	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 410	410	120	1
10726	2,4-Dichlorophenol	120-83-2	< 41	41	21	1
10726	Diethylphthalate	84-66-2	< 210	210	82	1
10726	2,4-Dimethylphenol	105-67-9	< 41	41	21	1
10726	Dimethylphthalate	131-11-3	< 210	210	82	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 620	620	210	1
10726	2,4-Dinitrophenol	51-28-5	< 1,200	1,200	370	1
10726	2,4-Dinitrotoluene	121-14-2	< 210	210	82	1
10726	2,6-Dinitrotoluene	606-20-2	< 41	41	21	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 210	210	82	1
10726	Fluoranthene	206-44-0	200	21	4	1
10726	Fluorene	86-73-7	28	21	4	1
10726	Hexachlorobenzene	118-74-1	< 21	21	4	1
10726	Hexachlorobutadiene	87-68-3	< 41	41	21	1
10726	Hexachlorocyclopentadiene	77-47-4	< 620	620	210	1
10726	Hexachloroethane	67-72-1	< 210	210	41	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	86	21	4	1

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Sample Description: SS-01-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260955
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS010

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 41	41	21	1
10726	2-Methylnaphthalene	91-57-6	960	21	4	1
10726	2-Methylphenol	95-48-7	< 41	41	21	1
10726	4-Methylphenol	106-44-5	< 41	41	21	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	590	21	4	1
10726	2-Nitroaniline	88-74-4	< 41	41	21	1
10726	3-Nitroaniline	99-09-2	< 210	210	82	1
10726	4-Nitroaniline	100-01-6	< 210	210	82	1
10726	Nitrobenzene	98-95-3	< 41	41	21	1
10726	2-Nitrophenol	88-75-5	< 41	41	21	1
10726	4-Nitrophenol	100-02-7	< 620	620	210	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 41	41	21	1
10726	N-Nitrosodiphenylamine	86-30-6	< 41	41	21	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 210	210	82	1
10726	Pentachlorophenol	87-86-5	< 210	210	41	1
10726	Phenanthrene	85-01-8	890	21	4	1
10726	Phenol	108-95-2	< 41	41	21	1
10726	Pyrene	129-00-0	270	21	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 41	41	21	1
10726	2,4,6-Trichlorophenol	88-06-2	< 41	41	21	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 21	21	4.4	1
10885	PCB-1221	11104-28-2	< 21	21	5.7	1
10885	PCB-1232	11141-16-5	< 21	21	9.8	1
10885	PCB-1242	53469-21-9	< 21	21	4.1	1
10885	PCB-1248	12672-29-6	< 21	21	4.1	1
10885	PCB-1254	11097-69-1	< 21	21	4.1	1
10885	PCB-1260	11096-82-5	< 21	21	6.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.2	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	9,680	42.3	8.09	1
06946	Barium	7440-39-3	241	1.06	0.127	1
01650	Calcium	7440-70-2	3,160	42.3	3.52	1
06952	Cobalt	7440-48-4	8.28	1.06	0.0856	1
06953	Copper	7440-50-8	107	2.11	0.338	1
01654	Iron	7439-89-6	21,000	42.3	3.52	1
06955	Lead	7439-92-1	378	3.17	0.433	1
01657	Magnesium	7439-95-4	1,060	21.1	1.76	1
06958	Manganese	7439-96-5	152	1.06	0.127	1

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-01-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260955
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:00 by TK

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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS010

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06961	Nickel	7440-02-0	15.4	2.11	0.243	1
01662	Potassium	7440-09-7	1,220	106	17.7	1
01667	Sodium	7440-23-5	< 211	211	17.6	1
06970	Titanium	7440-32-6	527	2.11	0.391	1
06971	Vanadium	7440-62-2	53.5	1.06	0.243	1
06972	Zinc	7440-66-6	45.9	4.23	0.813	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	12.3	0.423	0.0697	2
06125	Arsenic	7440-38-2	33.7	0.845	0.158	2
06127	Beryllium	7440-41-7	0.818	0.211	0.0150	2
06128	Cadmium	7440-43-9	0.662	0.211	0.0486	2
06131	Chromium	7440-47-3	17.6	0.845	0.106	2
06141	Selenium	7782-49-2	1.80	0.845	0.106	2
06142	Silver	7440-22-4	0.248	0.211	0.0211	2
06145	Thallium	7440-28-0	< 0.211	0.211	0.0317	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.580	0.233	0.0116	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	19.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016 13:29	Jennifer K Howe	1.15
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 10:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 10:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 10:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016 20:54	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1

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Analysis Report

Sample Description: SS-01-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260955
LL Group # 1635319
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Project Name: Former Cohn Property/Columbus, GA

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1200 Peachtree Street, NE
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SS010

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/03/2016 23:55	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 13:40	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:48	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 21:44	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 11:25	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 11:25	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 11:25	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 11:25	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 11:25	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 11:25	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 11:25	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:25	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:15	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-02-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260956
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	55	26	9	1.07
11995	Benzene	71-43-2	< 6	6	0.6	1.07
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.07
11995	Bromoform	75-25-2	< 6	6	1	1.07
11995	Bromomethane	74-83-9	< 6	6	3	1.07
11995	2-Butanone	78-93-3	< 13	13	5	1.07
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.07
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.07
11995	Chlorobenzene	108-90-7	< 6	6	1	1.07
11995	Chloroethane	75-00-3	< 6	6	3	1.07
11995	Chloroform	67-66-3	< 6	6	1	1.07
11995	Chloromethane	74-87-3	< 6	6	3	1.07
11995	Cyclohexane	110-82-7	< 6	6	1	1.07
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	3	1.07
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.07
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.07
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.07
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.07
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.07
11995	Dichlorodifluoromethane	75-71-8	< 6	6	3	1.07
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.07
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.07
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.07
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.07
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.07
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.07
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.07
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.07
11995	Ethylbenzene	100-41-4	< 6	6	1	1.07
11995	Freon 113	76-13-1	< 13	13	3	1.07
11995	2-Hexanone	591-78-6	< 13	13	4	1.07
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.07
11995	Methyl Acetate	79-20-9	< 6	6	3	1.07
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.07
11995	4-Methyl-2-pentanone	108-10-1	< 13	13	4	1.07
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.07
11995	Methylene Chloride	75-09-2	< 6	6	3	1.07
11995	Styrene	100-42-5	< 6	6	1	1.07
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.07
11995	Tetrachloroethene	127-18-4	350	6	1	1.07
11995	Toluene	108-88-3	< 6	6	1	1.07
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.07
11995	1,1,1-Trichloroethane	71-55-6	7	6	1	1.07
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.07
11995	Trichloroethene	79-01-6	9	6	1	1.07
11995	Trichlorofluoromethane	75-69-4	< 6	6	3	1.07
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.07
11995	Xylene (Total)	1330-20-7	< 6	6	1	1.07

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: SS-02-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260956
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	acceptance limits, indicating a matrix effect. The data is reported from the initial trial.					
GC/MS Semivolatiles		**SW-846 8270D**	**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	47	20	4	1
10726	Acenaphthylene	208-96-8	140	20	4	1
10726	Acetophenone	98-86-2	68	40	20	1
10726	Anthracene	120-12-7	220	20	4	1
10726	Atrazine	1912-24-9	< 200	200	40	1
10726	Benzaldehyde	100-52-7	< 200	200	80	1
10726	Benzo(a)anthracene	56-55-3	740	20	4	1
10726	Benzo(a)pyrene	50-32-8	760	20	4	1
10726	Benzo(b)fluoranthene	205-99-2	1,200	20	4	1
10726	Benzo(g,h,i)perylene	191-24-2	640	20	4	1
10726	Benzo(k)fluoranthene	207-08-9	480	20	4	1
10726	1,1'-Biphenyl	92-52-4	41	40	20	1
10726	4-Bromophenyl-phenylether	101-55-3	< 40	40	20	1
10726	Butylbenzylphthalate	85-68-7	< 200	200	80	1
10726	Di-n-butylphthalate	84-74-2	< 200	200	80	1
10726	Caprolactam	105-60-2	< 200	200	40	1
10726	Carbazole	86-74-8	73	40	20	1
10726	4-Chloro-3-methylphenol	59-50-7	< 40	40	20	1
10726	4-Chloroaniline	106-47-8	< 80	80	40	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 40	40	20	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 40	40	20	1
10726	2-Chloronaphthalene	91-58-7	< 40	40	8	1
10726	2-Chlorophenol	95-57-8	< 40	40	20	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 40	40	20	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 40	40	20	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	840	20	4	1
10726	Dibenz(a,h)anthracene	53-70-3	190	20	4	1
10726	Dibenzofuran	132-64-9	160	40	20	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 400	400	120	1
10726	2,4-Dichlorophenol	120-83-2	< 40	40	20	1
10726	Diethylphthalate	84-66-2	< 200	200	80	1
10726	2,4-Dimethylphenol	105-67-9	< 40	40	20	1
10726	Dimethylphthalate	131-11-3	< 200	200	80	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 600	600	200	1
10726	2,4-Dinitrophenol	51-28-5	< 1,200	1,200	360	1
10726	2,4-Dinitrotoluene	121-14-2	< 200	200	80	1
10726	2,6-Dinitrotoluene	606-20-2	< 40	40	20	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	350	200	80	1
10726	Fluoranthene	206-44-0	970	20	4	1
10726	Fluorene	86-73-7	30	20	4	1
10726	Hexachlorobenzene	118-74-1	< 20	20	4	1
10726	Hexachlorobutadiene	87-68-3	< 40	40	20	1
10726	Hexachlorocyclopentadiene	77-47-4	< 600	600	200	1
10726	Hexachloroethane	67-72-1	< 200	200	40	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	560	20	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-02-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260956
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 40	40	20	1
10726	2-Methylnaphthalene	91-57-6	480	20	4	1
10726	2-Methylphenol	95-48-7	< 40	40	20	1
10726	4-Methylphenol	106-44-5	< 40	40	20	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	340	20	4	1
10726	2-Nitroaniline	88-74-4	< 40	40	20	1
10726	3-Nitroaniline	99-09-2	< 200	200	80	1
10726	4-Nitroaniline	100-01-6	< 200	200	80	1
10726	Nitrobenzene	98-95-3	< 40	40	20	1
10726	2-Nitrophenol	88-75-5	< 40	40	20	1
10726	4-Nitrophenol	100-02-7	< 600	600	200	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 40	40	20	1
10726	N-Nitrosodiphenylamine	86-30-6	< 40	40	20	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 200	200	80	1
10726	Pentachlorophenol	87-86-5	< 200	200	40	1
10726	Phenanthrene	85-01-8	700	20	4	1
10726	Phenol	108-95-2	< 40	40	20	1
10726	Pyrene	129-00-0	990	20	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 40	40	20	1
10726	2,4,6-Trichlorophenol	88-06-2	< 40	40	20	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 210	210	44	10
10885	PCB-1221	11104-28-2	< 210	210	56	10
10885	PCB-1232	11141-16-5	< 210	210	97	10
10885	PCB-1242	53469-21-9	< 210	210	40	10
10885	PCB-1248	12672-29-6	410	210	40	10
10885	PCB-1254	11097-69-1	400	210	40	10
10885	PCB-1260	11096-82-5	< 210	210	59	10
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	17,400	41.8	8.01	1
06946	Barium	7440-39-3	176	1.05	0.126	1
01650	Calcium	7440-70-2	3,990	41.8	3.48	1
06952	Cobalt	7440-48-4	9.15	1.05	0.0847	1
06953	Copper	7440-50-8	151	2.09	0.335	1
01654	Iron	7439-89-6	39,100	209	17.4	5
06955	Lead	7439-92-1	207	3.14	0.429	1
01657	Magnesium	7439-95-4	2,290	20.9	1.75	1
06958	Manganese	7439-96-5	658	1.05	0.126	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-02-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260956
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS020

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06961	Nickel		7440-02-0	31.7	2.09	0.241	1
01662	Potassium		7440-09-7	2,220	105	17.6	1
01667	Sodium		7440-23-5	< 209	209	17.5	1
06970	Titanium		7440-32-6	692	2.09	0.387	1
06971	Vanadium		7440-62-2	41.3	1.05	0.241	1
06972	Zinc		7440-66-6	191	4.18	0.806	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	4.65	0.418	0.0690	2
06125	Arsenic		7440-38-2	50.0	0.837	0.157	2
06127	Beryllium		7440-41-7	0.898	0.209	0.0149	2
06128	Cadmium		7440-43-9	1.31	0.209	0.0481	2
06131	Chromium		7440-47-3	57.5	0.837	0.105	2
06141	Selenium		7782-49-2	< 0.837	0.837	0.105	2
06142	Silver		7440-22-4	0.306	0.209	0.0209	2
06145	Thallium		7440-28-0	0.233	0.209	0.0314	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	< 0.235	0.235	0.0118	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	17.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016 13:52	Jennifer K Howe	1.07
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 10:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 10:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 10:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/06/2016 23:35	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-02-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260956
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 10:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS020

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/06/2016 20:44	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 13:58	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:52	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/05/2016 08:55	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 21:47	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 11:28	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 11:28	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 11:28	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 11:28	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 11:28	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 11:28	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 11:28	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:28	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:17	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260957
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,100	1,100	380	48.16
11995	Benzene	71-43-2	< 270	270	27	48.16
11995	Bromodichloromethane	75-27-4	< 270	270	55	48.16
11995	Bromoform	75-25-2	< 270	270	55	48.16
11995	Bromomethane	74-83-9	< 270	270	110	48.16
11995	2-Butanone	78-93-3	< 550	550	220	48.16
11995	Carbon Disulfide	75-15-0	< 270	270	55	48.16
11995	Carbon Tetrachloride	56-23-5	< 270	270	55	48.16
11995	Chlorobenzene	108-90-7	< 270	270	55	48.16
11995	Chloroethane	75-00-3	< 270	270	110	48.16
11995	Chloroform	67-66-3	< 270	270	55	48.16
11995	Chloromethane	74-87-3	< 270	270	110	48.16
11995	Cyclohexane	110-82-7	< 270	270	55	48.16
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 270	270	110	48.16
11995	Dibromochloromethane	124-48-1	< 270	270	55	48.16
11995	1,2-Dibromoethane	106-93-4	< 270	270	55	48.16
11995	1,2-Dichlorobenzene	95-50-1	< 270	270	55	48.16
11995	1,3-Dichlorobenzene	541-73-1	< 270	270	55	48.16
11995	1,4-Dichlorobenzene	106-46-7	< 270	270	55	48.16
11995	Dichlorodifluoromethane	75-71-8	< 270	270	110	48.16
11995	1,1-Dichloroethane	75-34-3	< 270	270	55	48.16
11995	1,2-Dichloroethane	107-06-2	< 270	270	55	48.16
11995	1,1-Dichloroethene	75-35-4	< 270	270	55	48.16
11995	cis-1,2-Dichloroethene	156-59-2	< 270	270	55	48.16
11995	trans-1,2-Dichloroethene	156-60-5	< 270	270	55	48.16
11995	1,2-Dichloropropane	78-87-5	< 270	270	55	48.16
11995	cis-1,3-Dichloropropene	10061-01-5	< 270	270	55	48.16
11995	trans-1,3-Dichloropropene	10061-02-6	< 270	270	55	48.16
11995	Ethylbenzene	100-41-4	< 270	270	55	48.16
11995	Freon 113	76-13-1	< 550	550	110	48.16
11995	2-Hexanone	591-78-6	< 550	550	160	48.16
11995	Isopropylbenzene	98-82-8	< 270	270	55	48.16
11995	Methyl Acetate	79-20-9	< 270	270	110	48.16
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 270	270	27	48.16
11995	4-Methyl-2-pentanone	108-10-1	< 550	550	160	48.16
11995	Methylcyclohexane	108-87-2	< 270	270	55	48.16
11995	Methylene Chloride	75-09-2	< 270	270	110	48.16
11995	Styrene	100-42-5	< 270	270	55	48.16
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 270	270	55	48.16
11995	Tetrachloroethene	127-18-4	33,000	2,700	550	481.59
11995	Toluene	108-88-3	< 270	270	55	48.16
11995	1,2,4-Trichlorobenzene	120-82-1	< 270	270	55	48.16
11995	1,1,1-Trichloroethane	71-55-6	1,100	270	55	48.16
11995	1,1,2-Trichloroethane	79-00-5	< 270	270	55	48.16
11995	Trichloroethene	79-01-6	770	270	55	48.16
11995	Trichlorofluoromethane	75-69-4	< 270	270	110	48.16
11995	Vinyl Chloride	75-01-4	< 270	270	55	48.16
11995	Xylene (Total)	1330-20-7	< 270	270	55	48.16

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260957
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 37	37	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	37	1
10726	Benzaldehyde	100-52-7	< 190	190	75	1
10726	Benzo(a)anthracene	56-55-3	48	19	4	1
10726	Benzo(a)pyrene	50-32-8	44	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	68	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	45	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	27	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	75	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	75	1
10726	Caprolactam	105-60-2	< 190	190	37	1
10726	Carbazole	86-74-8	< 37	37	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	19	1
10726	4-Chloroaniline	106-47-8	< 75	75	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	82	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 37	37	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	19	1
10726	Diethylphthalate	84-66-2	< 190	190	75	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 560	560	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	75	1
10726	Fluoranthene	206-44-0	65	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 560	560	190	1
10726	Hexachloroethane	67-72-1	< 190	190	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	33	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260957
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 37	37	19	1
10726	2-Methylnaphthalene	91-57-6	71	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	19	1
10726	4-Methylphenol	106-44-5	< 37	37	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	48	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	75	1
10726	4-Nitroaniline	100-01-6	< 190	190	75	1
10726	Nitrobenzene	98-95-3	< 37	37	19	1
10726	2-Nitrophenol	88-75-5	< 37	37	19	1
10726	4-Nitrophenol	100-02-7	< 560	560	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	75	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	89	19	4	1
10726	Phenol	108-95-2	< 37	37	19	1
10726	Pyrene	129-00-0	65	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1
10885	PCB-1221	11104-28-2	< 19	19	5.2	1
10885	PCB-1232	11141-16-5	< 19	19	9.0	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	38	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.5	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	19,600	39.5	7.56	1
06946	Barium	7440-39-3	148	0.987	0.118	1
01650	Calcium	7440-70-2	2,630	39.5	3.29	1
06952	Cobalt	7440-48-4	9.47	0.987	0.0799	1
06953	Copper	7440-50-8	55.1	1.97	0.316	1
01654	Iron	7439-89-6	25,000	39.5	3.29	1
06955	Lead	7439-92-1	159	2.96	0.405	1
01657	Magnesium	7439-95-4	1,960	19.7	1.65	1
06958	Manganese	7439-96-5	747	0.987	0.118	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-03-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260957
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06961	Nickel		7440-02-0	9.36	1.97	0.227	1
01662	Potassium		7440-09-7	2,080	98.7	16.6	1
01667	Sodium		7440-23-5	< 197	197	16.5	1
06970	Titanium		7440-32-6	754	1.97	0.365	1
06971	Vanadium		7440-62-2	39.4	0.987	0.227	1
06972	Zinc		7440-66-6	101	3.95	0.760	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	1.65	0.395	0.0651	2
06125	Arsenic		7440-38-2	8.77	0.790	0.148	2
06127	Beryllium		7440-41-7	1.18	0.197	0.0140	2
06128	Cadmium		7440-43-9	0.260	0.197	0.0454	2
06131	Chromium		7440-47-3	23.6	0.790	0.0987	2
06141	Selenium		7782-49-2	< 0.790	0.790	0.0987	2
06142	Silver		7440-22-4	< 0.197	0.197	0.0197	2
06145	Thallium		7440-28-0	0.329	0.197	0.0296	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	< 0.215	0.215	0.0107	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	11.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 09:20	Anita M Dale	48.16
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 10:54	Anita M Dale	481.59
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 11:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016 00:03	Linda M Hartenstine	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260957
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/04/2016 00:18	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 14:34	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:05	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 20:42	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 10:30	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 10:30	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 10:30	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 10:30	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 10:30	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 10:30	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 10:30	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 10:30	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 06:40	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260958
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**		**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	8,400		1,400	480	59.81
11995	Benzene	71-43-2	1,200		340	34	59.81
11995	Bromodichloromethane	75-27-4	1,200		340	68	59.81
11995	Bromoform	75-25-2	1,300		340	68	59.81
11995	Bromomethane	74-83-9	1,100		340	140	59.81
11995	2-Butanone	78-93-3	9,100		680	270	59.81
11995	Carbon Disulfide	75-15-0	1,300		340	68	59.81
11995	Carbon Tetrachloride	56-23-5	1,200		340	68	59.81
11995	Chlorobenzene	108-90-7	1,200		340	68	59.81
11995	Chloroethane	75-00-3	1,100		340	140	59.81
11995	Chloroform	67-66-3	1,300		340	68	59.81
11995	Chloromethane	74-87-3	930		340	140	59.81
11995	Cyclohexane	110-82-7	1,200		340	68	59.81
11995	1,2-Dibromo-3-chloropropane	96-12-8	1,100		340	140	59.81
11995	Dibromochloromethane	124-48-1	1,300		340	68	59.81
11995	1,2-Dibromoethane	106-93-4	1,300		340	68	59.81
11995	1,2-Dichlorobenzene	95-50-1	1,200		340	68	59.81
11995	1,3-Dichlorobenzene	541-73-1	1,300		340	68	59.81
11995	1,4-Dichlorobenzene	106-46-7	1,200		340	68	59.81
11995	Dichlorodifluoromethane	75-71-8	450		340	140	59.81
11995	1,1-Dichloroethane	75-34-3	1,300		340	68	59.81
11995	1,2-Dichloroethane	107-06-2	1,300		340	68	59.81
11995	1,1-Dichloroethene	75-35-4	1,400		340	68	59.81
11995	cis-1,2-Dichloroethene	156-59-2	1,300		340	68	59.81
11995	trans-1,2-Dichloroethene	156-60-5	1,300		340	68	59.81
11995	1,2-Dichloropropane	78-87-5	1,300		340	68	59.81
11995	cis-1,3-Dichloropropene	10061-01-5	1,300		340	68	59.81
11995	trans-1,3-Dichloropropene	10061-02-6	1,300		340	68	59.81
11995	Ethylbenzene	100-41-4	1,200		340	68	59.81
11995	Freon 113	76-13-1	1,000		680	140	59.81
11995	2-Hexanone	591-78-6	6,500		680	200	59.81
11995	Isopropylbenzene	98-82-8	1,200		340	68	59.81
11995	Methyl Acetate	79-20-9	1,400		340	140	59.81
11995	Methyl Tertiary Butyl Ether	1634-04-4	1,300		340	34	59.81
11995	4-Methyl-2-pentanone	108-10-1	6,300		680	200	59.81
11995	Methylcyclohexane	108-87-2	1,400		340	68	59.81
11995	Methylene Chloride	75-09-2	1,300		340	140	59.81
11995	Styrene	100-42-5	1,200		340	68	59.81
11995	1,1,2,2-Tetrachloroethane	79-34-5	1,200		340	68	59.81
11995	Tetrachloroethene	127-18-4	41,000	E	340	68	59.81
11995	Toluene	108-88-3	1,400		340	68	59.81
11995	1,2,4-Trichlorobenzene	120-82-1	1,100		340	68	59.81
11995	1,1,1-Trichloroethane	71-55-6	2,500		340	68	59.81
11995	1,1,2-Trichloroethane	79-00-5	1,200		340	68	59.81
11995	Trichloroethene	79-01-6	2,200		340	68	59.81
11995	Trichlorofluoromethane	75-69-4	1,100		340	140	59.81
11995	Vinyl Chloride	75-01-4	950		340	68	59.81
11995	Xylene (Total)	1330-20-7	4,100		340	68	59.81
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**		**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	1,900		19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260958
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	2,000	19	4	1
10726	Acetophenone	98-86-2	1,600	38	19	1
10726	Anthracene	120-12-7	1,800	19	4	1
10726	Atrazine	1912-24-9	1,500	190	38	1
10726	Benzaldehyde	100-52-7	1,300	190	75	1
10726	Benzo(a)anthracene	56-55-3	1,900	19	4	1
10726	Benzo(a)pyrene	50-32-8	1,800	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	1,900	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	1,800	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	1,700	19	4	1
10726	1,1'-Biphenyl	92-52-4	1,700	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	1,900	38	19	1
10726	Butylbenzylphthalate	85-68-7	1,900	190	75	1
10726	Di-n-butylphthalate	84-74-2	1,800	190	75	1
10726	Caprolactam	105-60-2	1,400	190	38	1
10726	Carbazole	86-74-8	1,800	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	1,700	38	19	1
10726	4-Chloroaniline	106-47-8	670	75	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,900	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,800	38	19	1
10726	2-Chloronaphthalene	91-58-7	1,700	37	8	1
10726	2-Chlorophenol	95-57-8	1,700	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,700	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	1,700	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,900	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	1,900	19	4	1
10726	Dibenzofuran	132-64-9	1,800	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	920	380	110	1
10726	2,4-Dichlorophenol	120-83-2	1,700	38	19	1
10726	Diethylphthalate	84-66-2	1,800	190	75	1
10726	2,4-Dimethylphenol	105-67-9	1,000	38	19	1
10726	Dimethylphthalate	131-11-3	1,700	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,700	570	190	1
10726	2,4-Dinitrophenol	51-28-5	2,900	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	1,700	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	1,800	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,900	190	75	1
10726	Fluoranthene	206-44-0	1,800	19	4	1
10726	Fluorene	86-73-7	1,800	19	4	1
10726	Hexachlorobenzene	118-74-1	1,700	19	4	1
10726	Hexachlorobutadiene	87-68-3	1,700	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	3,000	570	190	1
10726	Hexachloroethane	67-72-1	1,800	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,900	19	4	1
10726	Isophorone	78-59-1	1,800	38	19	1
10726	2-Methylnaphthalene	91-57-6	1,800	19	4	1
10726	2-Methylphenol	95-48-7	1,500	38	19	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260958
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	1,500	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,800	19	4	1
10726	2-Nitroaniline	88-74-4	1,800	38	19	1
10726	3-Nitroaniline	99-09-2	1,600	190	75	1
10726	4-Nitroaniline	100-01-6	1,300	190	75	1
10726	Nitrobenzene	98-95-3	1,800	38	19	1
10726	2-Nitrophenol	88-75-5	1,900	38	19	1
10726	4-Nitrophenol	100-02-7	1,700	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,700	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	1,600	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	2,000	190	75	1
10726	Pentachlorophenol	87-86-5	1,300	190	38	1
10726	Phenanthrene	85-01-8	1,800	19	4	1
10726	Phenol	108-95-2	1,700	38	19	1
10726	Pyrene	129-00-0	1,800	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	1,800	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	1,700	38	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	160	19	4.1	1
10885	PCB-1221	11104-28-2	< 19	19	5.2	1
10885	PCB-1232	11141-16-5	< 19	19	9.1	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	43 P	19	3.7	1
10885	PCB-1260	11096-82-5	210	19	5.6	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	96	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	20,200	32.9	6.30	1
06946	Barium	7440-39-3	362	0.823	0.0987	1
01650	Calcium	7440-70-2	4,400	32.9	2.74	1
06952	Cobalt	7440-48-4	44.8	0.823	0.0666	1
06953	Copper	7440-50-8	85.1	1.65	0.263	1
01654	Iron	7439-89-6	22,200	32.9	2.74	1
06955	Lead	7439-92-1	206	2.47	0.337	1
01657	Magnesium	7439-95-4	2,520	16.5	1.37	1
06958	Manganese	7439-96-5	717	0.823	0.0987	1
06961	Nickel	7440-02-0	47.3	1.65	0.189	1
01662	Potassium	7440-09-7	3,470	82.3	13.8	1
01667	Sodium	7440-23-5	836	165	13.7	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260958
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06970	Titanium		7440-32-6	881	1.65	0.304	1
06971	Vanadium		7440-62-2	80.0	0.823	0.189	1
06972	Zinc		7440-66-6	152	3.29	0.633	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	2.26	0.329	0.0543	2
06125	Arsenic		7440-38-2	10.0	0.658	0.123	2
06127	Beryllium		7440-41-7	1.58	0.165	0.0117	2
06128	Cadmium		7440-43-9	1.05	0.165	0.0378	2
06131	Chromium		7440-47-3	33.2	0.658	0.0823	2
06141	Selenium		7782-49-2	2.22	0.658	0.0823	2
06142	Silver		7440-22-4	8.35	0.165	0.0165	2
06145	Thallium		7440-28-0	0.606	0.165	0.0247	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	0.258	0.225	0.0113	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture		n.a.	11.9	0.50	0.50	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 10:07	Anita M Dale	59.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 11:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016 13:11	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/04/2016 00:30	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 14:52	Tyler O Griffin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260958
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:16	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/05/2016 08:16	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 20:53	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 10:39	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 10:39	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 10:39	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 10:39	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 10:39	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 10:39	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 10:39	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 10:39	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 06:46	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260959
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	8,000	1,100	400	50.42
11995	Benzene	71-43-2	1,200	290	29	50.42
11995	Bromodichloromethane	75-27-4	1,200	290	57	50.42
11995	Bromoform	75-25-2	1,200	290	57	50.42
11995	Bromomethane	74-83-9	1,100	290	110	50.42
11995	2-Butanone	78-93-3	8,500	570	230	50.42
11995	Carbon Disulfide	75-15-0	1,200	290	57	50.42
11995	Carbon Tetrachloride	56-23-5	1,200	290	57	50.42
11995	Chlorobenzene	108-90-7	1,100	290	57	50.42
11995	Chloroethane	75-00-3	1,000	290	110	50.42
11995	Chloroform	67-66-3	1,200	290	57	50.42
11995	Chloromethane	74-87-3	950	290	110	50.42
11995	Cyclohexane	110-82-7	1,000	290	57	50.42
11995	1,2-Dibromo-3-chloropropane	96-12-8	1,000	290	110	50.42
11995	Dibromochloromethane	124-48-1	1,200	290	57	50.42
11995	1,2-Dibromoethane	106-93-4	1,200	290	57	50.42
11995	1,2-Dichlorobenzene	95-50-1	1,200	290	57	50.42
11995	1,3-Dichlorobenzene	541-73-1	1,200	290	57	50.42
11995	1,4-Dichlorobenzene	106-46-7	1,200	290	57	50.42
11995	Dichlorodifluoromethane	75-71-8	480	290	110	50.42
11995	1,1-Dichloroethane	75-34-3	1,200	290	57	50.42
11995	1,2-Dichloroethane	107-06-2	1,200	290	57	50.42
11995	1,1-Dichloroethene	75-35-4	1,300	290	57	50.42
11995	cis-1,2-Dichloroethene	156-59-2	1,200	290	57	50.42
11995	trans-1,2-Dichloroethene	156-60-5	1,300	290	57	50.42
11995	1,2-Dichloropropane	78-87-5	1,200	290	57	50.42
11995	cis-1,3-Dichloropropene	10061-01-5	1,200	290	57	50.42
11995	trans-1,3-Dichloropropene	10061-02-6	1,200	290	57	50.42
11995	Ethylbenzene	100-41-4	1,100	290	57	50.42
11995	Freon 113	76-13-1	1,000	570	110	50.42
11995	2-Hexanone	591-78-6	6,200	570	170	50.42
11995	Isopropylbenzene	98-82-8	1,200	290	57	50.42
11995	Methyl Acetate	79-20-9	1,200	290	110	50.42
11995	Methyl Tertiary Butyl Ether	1634-04-4	1,200	290	29	50.42
11995	4-Methyl-2-pentanone	108-10-1	6,000	570	170	50.42
11995	Methylcyclohexane	108-87-2	1,100	290	57	50.42
11995	Methylene Chloride	75-09-2	1,300	290	110	50.42
11995	Styrene	100-42-5	1,100	290	57	50.42
11995	1,1,2,2-Tetrachloroethane	79-34-5	1,200	290	57	50.42
11995	Tetrachloroethene	127-18-4	17,000	290	57	50.42
11995	Toluene	108-88-3	1,200	290	57	50.42
11995	1,2,4-Trichlorobenzene	120-82-1	1,200	290	57	50.42
11995	1,1,1-Trichloroethane	71-55-6	1,600	290	57	50.42
11995	1,1,2-Trichloroethane	79-00-5	1,200	290	57	50.42
11995	Trichloroethene	79-01-6	1,500	290	57	50.42
11995	Trichlorofluoromethane	75-69-4	1,100	290	110	50.42
11995	Vinyl Chloride	75-01-4	950	290	57	50.42
11995	Xylene (Total)	1330-20-7	3,500	290	57	50.42
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	1,900	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-03-0-2-022516MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260959
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	2,000	19	4	1
10726	Acetophenone	98-86-2	1,600	37	19	1
10726	Anthracene	120-12-7	1,900	19	4	1
10726	Atrazine	1912-24-9	1,500	190	37	1
10726	Benzaldehyde	100-52-7	1,400	190	75	1
10726	Benzo(a)anthracene	56-55-3	1,900	19	4	1
10726	Benzo(a)pyrene	50-32-8	1,900	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	1,900	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	1,900	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	1,800	19	4	1
10726	1,1'-Biphenyl	92-52-4	1,700	37	19	1
10726	4-Bromophenyl-phenylether	101-55-3	1,900	37	19	1
10726	Butylbenzylphthalate	85-68-7	2,000	190	75	1
10726	Di-n-butylphthalate	84-74-2	1,900	190	75	1
10726	Caprolactam	105-60-2	1,500	190	37	1
10726	Carbazole	86-74-8	1,900	37	19	1
10726	4-Chloro-3-methylphenol	59-50-7	1,700	37	19	1
10726	4-Chloroaniline	106-47-8	800	75	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,900	37	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,800	37	19	1
10726	2-Chloronaphthalene	91-58-7	1,700	37	7	1
10726	2-Chlorophenol	95-57-8	1,800	37	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,800	37	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	1,800	37	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	2,000	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	2,000	19	4	1
10726	Dibenzofuran	132-64-9	1,800	37	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	1,100	370	110	1
10726	2,4-Dichlorophenol	120-83-2	1,800	37	19	1
10726	Diethylphthalate	84-66-2	1,700	190	75	1
10726	2,4-Dimethylphenol	105-67-9	1,100	37	19	1
10726	Dimethylphthalate	131-11-3	1,800	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,800	560	190	1
10726	2,4-Dinitrophenol	51-28-5	3,000	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	1,700	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	1,800	37	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	2,000	190	75	1
10726	Fluoranthene	206-44-0	1,900	19	4	1
10726	Fluorene	86-73-7	1,800	19	4	1
10726	Hexachlorobenzene	118-74-1	1,800	19	4	1
10726	Hexachlorobutadiene	87-68-3	1,800	37	19	1
10726	Hexachlorocyclopentadiene	77-47-4	3,200	560	190	1
10726	Hexachloroethane	67-72-1	1,800	190	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,900	19	4	1
10726	Isophorone	78-59-1	1,900	37	19	1
10726	2-Methylnaphthalene	91-57-6	1,800	19	4	1
10726	2-Methylphenol	95-48-7	1,600	37	19	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260959
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	1,600	37	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,900	19	4	1
10726	2-Nitroaniline	88-74-4	1,900	37	19	1
10726	3-Nitroaniline	99-09-2	1,600	190	75	1
10726	4-Nitroaniline	100-01-6	1,400	190	75	1
10726	Nitrobenzene	98-95-3	1,900	37	19	1
10726	2-Nitrophenol	88-75-5	2,000	37	19	1
10726	4-Nitrophenol	100-02-7	1,800	560	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,800	37	19	1
10726	N-Nitrosodiphenylamine	86-30-6	1,700	37	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	2,000	190	75	1
10726	Pentachlorophenol	87-86-5	1,400	190	37	1
10726	Phenanthrene	85-01-8	1,900	19	4	1
10726	Phenol	108-95-2	1,700	37	19	1
10726	Pyrene	129-00-0	1,800	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	1,800	37	19	1
10726	2,4,6-Trichlorophenol	88-06-2	1,800	37	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	160	19	4.0	1
10885	PCB-1221	11104-28-2	< 19	19	5.1	1
10885	PCB-1232	11141-16-5	< 19	19	8.9	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	44 P	19	3.7	1
10885	PCB-1260	11096-82-5	200	19	5.5	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	110	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	21,500	37.2	7.13	1
06946	Barium	7440-39-3	323	0.930	0.112	1
01650	Calcium	7440-70-2	2,760	37.2	3.10	1
06952	Cobalt	7440-48-4	50.3	0.930	0.0754	1
06953	Copper	7440-50-8	74.3	1.86	0.298	1
01654	Iron	7439-89-6	18,700	37.2	3.10	1
06955	Lead	7439-92-1	168	2.79	0.381	1
01657	Magnesium	7439-95-4	2,750	18.6	1.55	1
06958	Manganese	7439-96-5	934	0.930	0.112	1
06961	Nickel	7440-02-0	51.8	1.86	0.214	1
01662	Potassium	7440-09-7	3,700	93.0	15.6	1
01667	Sodium	7440-23-5	914	186	15.5	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260959
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06970	Titanium		7440-32-6	932	1.86	0.344	1
06971	Vanadium		7440-62-2	83.6	0.930	0.214	1
06972	Zinc		7440-66-6	122	3.72	0.716	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	1.28	0.372	0.0614	2
06125	Arsenic		7440-38-2	7.96	0.744	0.140	2
06127	Beryllium		7440-41-7	1.55	0.186	0.0132	2
06128	Cadmium		7440-43-9	1.14	0.186	0.0428	2
06131	Chromium		7440-47-3	28.4	0.744	0.0930	2
06141	Selenium		7782-49-2	2.14	0.744	0.0930	2
06142	Silver		7440-22-4	9.47	0.186	0.0186	2
06145	Thallium		7440-28-0	0.693	0.186	0.0279	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	0.260	0.225	0.0112	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture		n.a.	11.9	0.50	0.50	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 10:31	Anita M Dale	50.42
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 11:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016 13:38	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160610026A	03/04/2016 00:41	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160610026A	03/02/2016 09:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 15:10	Tyler O Griffin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260959
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:23	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/05/2016 08:23	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 20:56	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 10:42	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 10:42	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 10:42	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 10:42	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 10:42	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 10:42	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 10:42	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 10:42	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 06:48	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260960
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	15,500	42.0	8.05	1
06946	Barium	7440-39-3	217	1.05	0.126	1
01650	Calcium	7440-70-2	3,140	42.0	3.50	1
06952	Cobalt	7440-48-4	9.66	1.05	0.0851	1
06953	Copper	7440-50-8	54.5	2.10	0.336	1
01654	Iron	7439-89-6	21,200	42.0	3.50	1
06955	Lead	7439-92-1	132	3.15	0.431	1
01657	Magnesium	7439-95-4	2,320	21.0	1.76	1
06958	Manganese	7439-96-5	1,560	1.05	0.126	1
06961	Nickel	7440-02-0	9.05	2.10	0.242	1
01662	Potassium	7440-09-7	2,410	105	17.7	1
01667	Sodium	7440-23-5	< 210	210	17.6	1
06970	Titanium	7440-32-6	738	2.10	0.389	1
06971	Vanadium	7440-62-2	35.6	1.05	0.242	1
06972	Zinc	7440-66-6	91.3	4.20	0.809	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.73	0.420	0.0694	2
06125	Arsenic	7440-38-2	9.18	0.841	0.158	2
06127	Beryllium	7440-41-7	1.02	0.210	0.0149	2
06128	Cadmium	7440-43-9	0.348	0.210	0.0483	2
06131	Chromium	7440-47-3	20.6	0.841	0.105	2
06141	Selenium	7782-49-2	< 0.841	0.841	0.105	2
06142	Silver	7440-22-4	< 0.210	0.210	0.0210	2
06145	Thallium	7440-28-0	0.407	0.210	0.0315	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.212	0.212	0.0106	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	11.9	0.50	0.50	1
00121	Moisture Duplicate	n.a.	12.5	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-03-0-2-022516DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260960
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS030

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:12	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 20:49	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 10:36	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 10:36	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 10:36	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 10:36	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 10:36	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 10:36	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 10:36	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 10:36	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 06:44	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260961
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS040

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 35	35	12	1.49
11995	Benzene	71-43-2	< 9	9	0.9	1.49
11995	Bromodichloromethane	75-27-4	< 9	9	2	1.49
11995	Bromoform	75-25-2	< 9	9	2	1.49
11995	Bromomethane	74-83-9	< 9	9	4	1.49
11995	2-Butanone	78-93-3	< 18	18	7	1.49
11995	Carbon Disulfide	75-15-0	< 9	9	2	1.49
11995	Carbon Tetrachloride	56-23-5	< 9	9	2	1.49
11995	Chlorobenzene	108-90-7	< 9	9	2	1.49
11995	Chloroethane	75-00-3	< 9	9	4	1.49
11995	Chloroform	67-66-3	< 9	9	2	1.49
11995	Chloromethane	74-87-3	< 9	9	4	1.49
11995	Cyclohexane	110-82-7	< 9	9	2	1.49
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 9	9	4	1.49
11995	Dibromochloromethane	124-48-1	< 9	9	2	1.49
11995	1,2-Dibromoethane	106-93-4	< 9	9	2	1.49
11995	1,2-Dichlorobenzene	95-50-1	< 9	9	2	1.49
11995	1,3-Dichlorobenzene	541-73-1	< 9	9	2	1.49
11995	1,4-Dichlorobenzene	106-46-7	< 9	9	2	1.49
11995	Dichlorodifluoromethane	75-71-8	< 9	9	4	1.49
11995	1,1-Dichloroethane	75-34-3	< 9	9	2	1.49
11995	1,2-Dichloroethane	107-06-2	< 9	9	2	1.49
11995	1,1-Dichloroethene	75-35-4	< 9	9	2	1.49
11995	cis-1,2-Dichloroethene	156-59-2	< 9	9	2	1.49
11995	trans-1,2-Dichloroethene	156-60-5	< 9	9	2	1.49
11995	1,2-Dichloropropane	78-87-5	< 9	9	2	1.49
11995	cis-1,3-Dichloropropene	10061-01-5	< 9	9	2	1.49
11995	trans-1,3-Dichloropropene	10061-02-6	< 9	9	2	1.49
11995	Ethylbenzene	100-41-4	< 9	9	2	1.49
11995	Freon 113	76-13-1	< 18	18	4	1.49
11995	2-Hexanone	591-78-6	< 18	18	5	1.49
11995	Isopropylbenzene	98-82-8	< 9	9	2	1.49
11995	Methyl Acetate	79-20-9	< 9	9	4	1.49
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 9	9	0.9	1.49
11995	4-Methyl-2-pentanone	108-10-1	< 18	18	5	1.49
11995	Methylcyclohexane	108-87-2	< 9	9	2	1.49
11995	Methylene Chloride	75-09-2	< 9	9	4	1.49
11995	Styrene	100-42-5	< 9	9	2	1.49
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 9	9	2	1.49
11995	Tetrachloroethene	127-18-4	80	9	2	1.49
11995	Toluene	108-88-3	< 9	9	2	1.49
11995	1,2,4-Trichlorobenzene	120-82-1	< 9	9	2	1.49
11995	1,1,1-Trichloroethane	71-55-6	< 9	9	2	1.49
11995	1,1,2-Trichloroethane	79-00-5	< 9	9	2	1.49
11995	Trichloroethene	79-01-6	< 9	9	2	1.49
11995	Trichlorofluoromethane	75-69-4	< 9	9	4	1.49
11995	Vinyl Chloride	75-01-4	< 9	9	2	1.49
11995	Xylene (Total)	1330-20-7	< 9	9	2	1.49
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 200	200	39	10

*=This limit was used in the evaluation of the final result

Sample Description: SS-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260961
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS040

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 200	200	39	10
10726	Acetophenone	98-86-2	< 390	390	190	10
10726	Anthracene	120-12-7	< 200	200	39	10
10726	Atrazine	1912-24-9	< 1,900	1,900	390	10
10726	Benzaldehyde	100-52-7	< 1,900	1,900	770	10
10726	Benzo(a)anthracene	56-55-3	280	200	39	10
10726	Benzo(a)pyrene	50-32-8	250	200	39	10
10726	Benzo(b)fluoranthene	205-99-2	410	200	39	10
10726	Benzo(g,h,i)perylene	191-24-2	260	200	39	10
10726	Benzo(k)fluoranthene	207-08-9	< 200	200	39	10
10726	1,1'-Biphenyl	92-52-4	< 390	390	190	10
10726	4-Bromophenyl-phenylether	101-55-3	< 390	390	190	10
10726	Butylbenzylphthalate	85-68-7	< 1,900	1,900	770	10
10726	Di-n-butylphthalate	84-74-2	< 1,900	1,900	770	10
10726	Caprolactam	105-60-2	< 1,900	1,900	390	10
10726	Carbazole	86-74-8	< 390	390	190	10
10726	4-Chloro-3-methylphenol	59-50-7	< 390	390	190	10
10726	4-Chloroaniline	106-47-8	< 770	770	390	10
10726	bis(2-Chloroethoxy)methane	111-91-1	< 390	390	190	10
10726	bis(2-Chloroethyl)ether	111-44-4	< 390	390	190	10
10726	2-Chloronaphthalene	91-58-7	< 380	380	77	10
10726	2-Chlorophenol	95-57-8	< 390	390	190	10
10726	4-Chlorophenyl-phenylether	7005-72-3	< 390	390	190	10
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 390	390	190	10
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	510	200	39	10
10726	Dibenz(a,h)anthracene	53-70-3	< 200	200	39	10
10726	Dibenzofuran	132-64-9	< 390	390	190	10
10726	3,3'-Dichlorobenzidine	91-94-1	< 3,900	3,900	1,200	10
10726	2,4-Dichlorophenol	120-83-2	< 390	390	190	10
10726	Diethylphthalate	84-66-2	< 1,900	1,900	770	10
10726	2,4-Dimethylphenol	105-67-9	< 390	390	190	10
10726	Dimethylphthalate	131-11-3	< 1,900	1,900	770	10
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 5,800	5,800	1,900	10
10726	2,4-Dinitrophenol	51-28-5	< 12,000	12,000	3,500	10
10726	2,4-Dinitrotoluene	121-14-2	< 1,900	1,900	770	10
10726	2,6-Dinitrotoluene	606-20-2	< 390	390	190	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 2,000	2,000	770	10
10726	Fluoranthene	206-44-0	390	200	39	10
10726	Fluorene	86-73-7	< 200	200	39	10
10726	Hexachlorobenzene	118-74-1	< 200	200	39	10
10726	Hexachlorobutadiene	87-68-3	< 390	390	190	10
10726	Hexachlorocyclopentadiene	77-47-4	< 5,800	5,800	1,900	10
10726	Hexachloroethane	67-72-1	< 1,900	1,900	390	10
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 200	200	39	10
10726	Isophorone	78-59-1	< 390	390	190	10
10726	2-Methylnaphthalene	91-57-6	1,000	200	39	10
10726	2-Methylphenol	95-48-7	< 390	390	190	10

*=This limit was used in the evaluation of the final result

Sample Description: SS-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260961
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS040

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 390	390	190	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	660	200	39	10
10726	2-Nitroaniline	88-74-4	< 390	390	190	10
10726	3-Nitroaniline	99-09-2	< 1,900	1,900	770	10
10726	4-Nitroaniline	100-01-6	< 1,900	1,900	770	10
10726	Nitrobenzene	98-95-3	< 390	390	190	10
10726	2-Nitrophenol	88-75-5	< 390	390	190	10
10726	4-Nitrophenol	100-02-7	< 5,800	5,800	1,900	10
10726	N-Nitroso-di-n-propylamine	621-64-7	< 390	390	190	10
10726	N-Nitrosodiphenylamine	86-30-6	< 390	390	190	10
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 1,900	1,900	770	10
10726	Pentachlorophenol	87-86-5	< 2,000	2,000	390	10
10726	Phenanthrene	85-01-8	1,000	200	39	10
10726	Phenol	108-95-2	< 390	390	190	10
10726	Pyrene	129-00-0	430	200	39	10
10726	2,4,5-Trichlorophenol	95-95-4	< 390	390	190	10
10726	2,4,6-Trichlorophenol	88-06-2	< 390	390	190	10
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.2	1
10885	PCB-1221	11104-28-2	< 20	20	5.4	1
10885	PCB-1232	11141-16-5	< 20	20	9.3	1
10885	PCB-1242	53469-21-9	< 20	20	3.8	1
10885	PCB-1248	12672-29-6	< 20	20	3.8	1
10885	PCB-1254	11097-69-1	49	20	3.8	1
10885	PCB-1260	11096-82-5	31	20	5.7	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.9	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	11,500	37.1	7.11	1
06946	Barium	7440-39-3	140	0.929	0.111	1
01650	Calcium	7440-70-2	5,640	37.1	3.09	1
06952	Cobalt	7440-48-4	7.17	0.929	0.0752	1
06953	Copper	7440-50-8	62.5	1.86	0.297	1
01654	Iron	7439-89-6	17,400	37.1	3.09	1
06955	Lead	7439-92-1	129	2.79	0.381	1
01657	Magnesium	7439-95-4	3,560	18.6	1.55	1
06958	Manganese	7439-96-5	336	0.929	0.111	1
06961	Nickel	7440-02-0	11.3	1.86	0.214	1
01662	Potassium	7440-09-7	2,410	92.9	15.6	1
01667	Sodium	7440-23-5	< 186	186	15.5	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260961
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS040

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06970	Titanium	7440-32-6	757	1.86	0.344	1
06971	Vanadium	7440-62-2	37.3	0.929	0.214	1
06972	Zinc	7440-66-6	111	3.71	0.715	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.08	0.371	0.0613	2
06125	Arsenic	7440-38-2	11.9	0.743	0.139	2
06127	Beryllium	7440-41-7	0.726	0.186	0.0132	2
06128	Cadmium	7440-43-9	0.522	0.186	0.0427	2
06131	Chromium	7440-47-3	20.4	0.743	0.0929	2
06141	Selenium	7782-49-2	0.796	0.743	0.0929	2
06142	Silver	7440-22-4	< 0.186	0.186	0.0186	2
06145	Thallium	7440-28-0	< 0.186	0.186	0.0279	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.221	0.221	0.0111	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	15.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160671AA	03/07/2016 19:53	Angela D Sneeringer	1.49
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 11:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 11:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 11:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016 14:06	Linda M Hartenstine	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/07/2016 22:01	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260961
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS040

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016 23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 14:16	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 08:58	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 21:57	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 11:37	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 11:37	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 11:37	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 11:37	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 11:37	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 11:37	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 11:37	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:37	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:19	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-05-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260962
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS050

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 19	19	7	0.81
11995	Benzene	71-43-2	< 5	5	0.5	0.81
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.81
11995	Bromoform	75-25-2	< 5	5	0.9	0.81
11995	Bromomethane	74-83-9	< 5	5	2	0.81
11995	2-Butanone	78-93-3	< 9	9	4	0.81
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.81
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.81
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.81
11995	Chloroethane	75-00-3	< 5	5	2	0.81
11995	Chloroform	67-66-3	< 5	5	0.9	0.81
11995	Chloromethane	74-87-3	< 5	5	2	0.81
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.81
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.81
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.81
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.81
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.81
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.81
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.81
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.81
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.81
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.81
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.81
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.81
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.81
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.81
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.81
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.81
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.81
11995	Freon 113	76-13-1	< 9	9	2	0.81
11995	2-Hexanone	591-78-6	< 9	9	3	0.81
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.81
11995	Methyl Acetate	79-20-9	< 5	5	2	0.81
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.81
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.81
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.81
11995	Methylene Chloride	75-09-2	< 5	5	2	0.81
11995	Styrene	100-42-5	< 5	5	0.9	0.81
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.81
11995	Tetrachloroethene	127-18-4	110	5	0.9	0.81
11995	Toluene	108-88-3	< 5	5	0.9	0.81
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.81
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.81
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.81
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.81
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.81
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.81
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.81
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 20	20	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-05-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260962
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS050

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 20	20	4	1
10726	Acetophenone	98-86-2	< 39	39	20	1
10726	Anthracene	120-12-7	< 20	20	4	1
10726	Atrazine	1912-24-9	< 200	200	39	1
10726	Benzaldehyde	100-52-7	< 200	200	78	1
10726	Benzo(a)anthracene	56-55-3	43	20	4	1
10726	Benzo(a)pyrene	50-32-8	37	20	4	1
10726	Benzo(b)fluoranthene	205-99-2	60	20	4	1
10726	Benzo(g,h,i)perylene	191-24-2	41	20	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 20	20	4	1
10726	1,1'-Biphenyl	92-52-4	< 39	39	20	1
10726	4-Bromophenyl-phenylether	101-55-3	< 39	39	20	1
10726	Butylbenzylphthalate	85-68-7	< 200	200	78	1
10726	Di-n-butylphthalate	84-74-2	< 200	200	78	1
10726	Caprolactam	105-60-2	< 200	200	39	1
10726	Carbazole	86-74-8	< 39	39	20	1
10726	4-Chloro-3-methylphenol	59-50-7	< 39	39	20	1
10726	4-Chloroaniline	106-47-8	< 78	78	39	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 39	39	20	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 39	39	20	1
10726	2-Chloronaphthalene	91-58-7	< 39	39	8	1
10726	2-Chlorophenol	95-57-8	< 39	39	20	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 39	39	20	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 39	39	20	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	61	20	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 20	20	4	1
10726	Dibenzofuran	132-64-9	< 39	39	20	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 390	390	120	1
10726	2,4-Dichlorophenol	120-83-2	< 39	39	20	1
10726	Diethylphthalate	84-66-2	< 200	200	78	1
10726	2,4-Dimethylphenol	105-67-9	< 39	39	20	1
10726	Dimethylphthalate	131-11-3	< 200	200	78	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 590	590	200	1
10726	2,4-Dinitrophenol	51-28-5	< 1,200	1,200	350	1
10726	2,4-Dinitrotoluene	121-14-2	< 200	200	78	1
10726	2,6-Dinitrotoluene	606-20-2	< 39	39	20	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 200	200	78	1
10726	Fluoranthene	206-44-0	61	20	4	1
10726	Fluorene	86-73-7	< 20	20	4	1
10726	Hexachlorobenzene	118-74-1	< 20	20	4	1
10726	Hexachlorobutadiene	87-68-3	< 39	39	20	1
10726	Hexachlorocyclopentadiene	77-47-4	< 590	590	200	1
10726	Hexachloroethane	67-72-1	< 200	200	39	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	33	20	4	1
10726	Isophorone	78-59-1	< 39	39	20	1
10726	2-Methylnaphthalene	91-57-6	100	20	4	1
10726	2-Methylphenol	95-48-7	< 39	39	20	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-05-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260962
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS050

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 39	39	20	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	80	20	4	1
10726	2-Nitroaniline	88-74-4	< 39	39	20	1
10726	3-Nitroaniline	99-09-2	< 200	200	78	1
10726	4-Nitroaniline	100-01-6	< 200	200	78	1
10726	Nitrobenzene	98-95-3	< 39	39	20	1
10726	2-Nitrophenol	88-75-5	< 39	39	20	1
10726	4-Nitrophenol	100-02-7	< 590	590	200	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 39	39	20	1
10726	N-Nitrosodiphenylamine	86-30-6	< 39	39	20	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 200	200	78	1
10726	Pentachlorophenol	87-86-5	< 200	200	39	1
10726	Phenanthrene	85-01-8	89	20	4	1
10726	Phenol	108-95-2	< 39	39	20	1
10726	Pyrene	129-00-0	64	20	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 39	39	20	1
10726	2,4,6-Trichlorophenol	88-06-2	< 39	39	20	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.2	1
10885	PCB-1221	11104-28-2	< 20	20	5.4	1
10885	PCB-1232	11141-16-5	< 20	20	9.4	1
10885	PCB-1242	53469-21-9	< 20	20	3.9	1
10885	PCB-1248	12672-29-6	< 20	20	3.9	1
10885	PCB-1254	11097-69-1	< 20	20	3.9	1
10885	PCB-1260	11096-82-5	< 20	20	5.8	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.9	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	13,900	43.5	8.32	1
06946	Barium	7440-39-3	98.4	1.09	0.130	1
01650	Calcium	7440-70-2	909	43.5	3.62	1
06952	Cobalt	7440-48-4	6.04	1.09	0.0880	1
06953	Copper	7440-50-8	117	2.17	0.348	1
01654	Iron	7439-89-6	19,700	43.5	3.62	1
06955	Lead	7439-92-1	328	3.26	0.446	1
01657	Magnesium	7439-95-4	1,350	21.7	1.81	1
06958	Manganese	7439-96-5	289	1.09	0.130	1
06961	Nickel	7440-02-0	5.81	2.17	0.250	1
01662	Potassium	7440-09-7	1,250	109	18.3	1
01667	Sodium	7440-23-5	< 217	217	18.1	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SS-05-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260962
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS050

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06970	Titanium	7440-32-6	554	2.17	0.402	1
06971	Vanadium	7440-62-2	31.5	1.09	0.250	1
06972	Zinc	7440-66-6	192	4.35	0.837	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.96	0.435	0.0717	2
06125	Arsenic	7440-38-2	11.7	0.869	0.163	2
06127	Beryllium	7440-41-7	0.554	0.217	0.0154	2
06128	Cadmium	7440-43-9	0.542	0.217	0.0500	2
06131	Chromium	7440-47-3	16.0	0.869	0.109	2
06141	Selenium	7782-49-2	< 0.869	0.869	0.109	2
06142	Silver	7440-22-4	0.647	0.217	0.0217	2
06145	Thallium	7440-28-0	0.241	0.217	0.0326	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.220	0.220	0.0110	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016 18:21	Angela D Sneeringer	0.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 11:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 11:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 11:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016 14:34	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160680020A	03/10/2016 18:00	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-05-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260962
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 11:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS050

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10497	PCB Microwave Soil Extraction	SW-846 3546	2	160680020A	03/09/2016	08:50	Olivia Arosemena	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016	16:22	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016	13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:02	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016	22:01	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:40	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:40	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:40	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:40	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:40	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:40	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:40	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016	11:40	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016	07:25	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016	07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016	12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016	08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-06-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260963
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS060

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,100	1,100	380	48.05
11995	Benzene	71-43-2	< 270	270	27	48.05
11995	Bromodichloromethane	75-27-4	< 270	270	55	48.05
11995	Bromoform	75-25-2	< 270	270	55	48.05
11995	Bromomethane	74-83-9	< 270	270	110	48.05
11995	2-Butanone	78-93-3	< 550	550	220	48.05
11995	Carbon Disulfide	75-15-0	< 270	270	55	48.05
11995	Carbon Tetrachloride	56-23-5	< 270	270	55	48.05
11995	Chlorobenzene	108-90-7	< 270	270	55	48.05
11995	Chloroethane	75-00-3	< 270	270	110	48.05
11995	Chloroform	67-66-3	< 270	270	55	48.05
11995	Chloromethane	74-87-3	< 270	270	110	48.05
11995	Cyclohexane	110-82-7	< 270	270	55	48.05
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 270	270	110	48.05
11995	Dibromochloromethane	124-48-1	< 270	270	55	48.05
11995	1,2-Dibromoethane	106-93-4	< 270	270	55	48.05
11995	1,2-Dichlorobenzene	95-50-1	< 270	270	55	48.05
11995	1,3-Dichlorobenzene	541-73-1	< 270	270	55	48.05
11995	1,4-Dichlorobenzene	106-46-7	< 270	270	55	48.05
11995	Dichlorodifluoromethane	75-71-8	< 270	270	110	48.05
11995	1,1-Dichloroethane	75-34-3	< 270	270	55	48.05
11995	1,2-Dichloroethane	107-06-2	< 270	270	55	48.05
11995	1,1-Dichloroethene	75-35-4	< 270	270	55	48.05
11995	cis-1,2-Dichloroethene	156-59-2	< 270	270	55	48.05
11995	trans-1,2-Dichloroethene	156-60-5	< 270	270	55	48.05
11995	1,2-Dichloropropane	78-87-5	< 270	270	55	48.05
11995	cis-1,3-Dichloropropene	10061-01-5	< 270	270	55	48.05
11995	trans-1,3-Dichloropropene	10061-02-6	< 270	270	55	48.05
11995	Ethylbenzene	100-41-4	< 270	270	55	48.05
11995	Freon 113	76-13-1	< 550	550	110	48.05
11995	2-Hexanone	591-78-6	< 550	550	160	48.05
11995	Isopropylbenzene	98-82-8	< 270	270	55	48.05
11995	Methyl Acetate	79-20-9	< 270	270	110	48.05
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 270	270	27	48.05
11995	4-Methyl-2-pentanone	108-10-1	< 550	550	160	48.05
11995	Methylcyclohexane	108-87-2	< 270	270	55	48.05
11995	Methylene Chloride	75-09-2	< 270	270	110	48.05
11995	Styrene	100-42-5	< 270	270	55	48.05
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 270	270	55	48.05
11995	Tetrachloroethene	127-18-4	21,000	2,700	550	480.47
11995	Toluene	108-88-3	< 270	270	55	48.05
11995	1,2,4-Trichlorobenzene	120-82-1	< 270	270	55	48.05
11995	1,1,1-Trichloroethane	71-55-6	< 270	270	55	48.05
11995	1,1,2-Trichloroethane	79-00-5	< 270	270	55	48.05
11995	Trichloroethene	79-01-6	< 270	270	55	48.05
11995	Trichlorofluoromethane	75-69-4	< 270	270	110	48.05
11995	Vinyl Chloride	75-01-4	< 270	270	55	48.05
11995	Xylene (Total)	1330-20-7	< 270	270	55	48.05

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: SS-06-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260963
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS060

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	75	1
10726	Benzo(a)anthracene	56-55-3	63	19	4	1
10726	Benzo(a)pyrene	50-32-8	47	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	130	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	70	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	28	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	75	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	75	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 75	75	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	120	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	21	19	4	1
10726	Dibenzofuran	132-64-9	< 38	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	75	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 570	570	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	75	1
10726	Fluoranthene	206-44-0	130	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 570	570	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	47	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-06-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260963
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS060

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	44	19	4	1
10726	2-Methylphenol	95-48-7	< 38	38	19	1
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	29	19	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	75	1
10726	4-Nitroaniline	100-01-6	< 190	190	75	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 570	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	75	1
10726	Pentachlorophenol	87-86-5	< 190	190	38	1
10726	Phenanthrene	85-01-8	100	19	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	90	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 950	950	200	50
10885	PCB-1221	11104-28-2	< 950	950	260	50
10885	PCB-1232	11141-16-5	< 950	950	450	50
10885	PCB-1242	53469-21-9	< 950	950	180	50
10885	PCB-1248	12672-29-6	< 950	950	180	50
10885	PCB-1254	11097-69-1	< 950	950	180	50
10885	PCB-1260	11096-82-5	< 950	950	270	50
	Reporting limits were raised due to interference from the sample matrix.					
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	9,740	42.0	8.05	1
06946	Barium	7440-39-3	91.2	1.05	0.126	1
01650	Calcium	7440-70-2	1,480	42.0	3.50	1
06952	Cobalt	7440-48-4	6.98	1.05	0.0851	1
06953	Copper	7440-50-8	156	2.10	0.336	1
01654	Iron	7439-89-6	45,900	210	17.5	5
06955	Lead	7439-92-1	72.4	3.15	0.431	1
01657	Magnesium	7439-95-4	2,180	21.0	1.76	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-06-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260963
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS060

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06958	Manganese	7439-96-5	398	1.05	0.126	1
06961	Nickel	7440-02-0	27.8	2.10	0.242	1
01662	Potassium	7440-09-7	2,160	105	17.7	1
01667	Sodium	7440-23-5	< 210	210	17.6	1
06970	Titanium	7440-32-6	594	2.10	0.389	1
06971	Vanadium	7440-62-2	31.7	1.05	0.242	1
06972	Zinc	7440-66-6	80.8	4.20	0.809	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.34	0.420	0.0694	2
06125	Arsenic	7440-38-2	10.6	0.841	0.158	2
06127	Beryllium	7440-41-7	0.464	0.210	0.0149	2
06128	Cadmium	7440-43-9	< 0.210	0.210	0.0483	2
06131	Chromium	7440-47-3	27.1	0.841	0.105	2
06141	Selenium	7782-49-2	< 0.841	0.841	0.105	2
06142	Silver	7440-22-4	< 0.210	0.210	0.0210	2
06145	Thallium	7440-28-0	0.215	0.210	0.0315	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.214	0.214	0.0107	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 09:44	Anita M Dale	48.05
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016 11:17	Anita M Dale	480.47
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 17:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 17:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 17:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016 15:02	Linda M Hartenstine	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-06-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260963
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SS060

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016 12:30	Sally L Appleyard	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/09/2016 01:45	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016 23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016 16:40	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016 13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016 09:05	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/05/2016 09:14	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016 22:04	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016 11:44	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016 11:44	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016 11:44	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016 11:44	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016 11:44	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016 11:44	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 11:44	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:44	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:27	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260964
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW102

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	130	22	8	0.99
11995	Benzene	71-43-2	< 5	5	0.5	0.99
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.99
11995	Bromoform	75-25-2	< 5	5	1	0.99
11995	Bromomethane	74-83-9	< 5	5	2	0.99
11995	2-Butanone	78-93-3	< 11	11	4	0.99
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.99
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.99
11995	Chlorobenzene	108-90-7	< 5	5	1	0.99
11995	Chloroethane	75-00-3	< 5	5	2	0.99
11995	Chloroform	67-66-3	< 5	5	1	0.99
11995	Chloromethane	74-87-3	< 5	5	2	0.99
11995	Cyclohexane	110-82-7	< 5	5	1	0.99
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.99
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.99
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.99
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.99
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.99
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.99
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.99
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.99
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.99
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.99
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.99
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.99
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.99
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.99
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.99
11995	Ethylbenzene	100-41-4	< 5	5	1	0.99
11995	Freon 113	76-13-1	< 11	11	2	0.99
11995	2-Hexanone	591-78-6	< 11	11	3	0.99
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.99
11995	Methyl Acetate	79-20-9	< 5	5	2	0.99
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.99
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.99
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.99
11995	Methylene Chloride	75-09-2	< 5	5	2	0.99
11995	Styrene	100-42-5	< 5	5	1	0.99
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.99
11995	Tetrachloroethene	127-18-4	60	5	1	0.99
11995	Toluene	108-88-3	< 5	5	1	0.99
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.99
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.99
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.99
11995	Trichloroethene	79-01-6	< 5	5	1	0.99
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.99
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.99
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.99
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	4	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260964
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW102

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	4	1
10726	Acetophenone	98-86-2	< 36	36	18	1
10726	Anthracene	120-12-7	< 18	18	4	1
10726	Atrazine	1912-24-9	< 180	180	36	1
10726	Benzaldehyde	100-52-7	< 180	180	73	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	4	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	27	18	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	4	1
10726	1,1'-Biphenyl	92-52-4	< 36	36	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 36	36	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	73	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	73	1
10726	Caprolactam	105-60-2	< 180	180	36	1
10726	Carbazole	86-74-8	< 36	36	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 36	36	18	1
10726	4-Chloroaniline	106-47-8	< 73	73	36	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 36	36	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 36	36	18	1
10726	2-Chloronaphthalene	91-58-7	< 36	36	7	1
10726	2-Chlorophenol	95-57-8	< 36	36	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 36	36	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 36	36	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	20	18	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	4	1
10726	Dibenzofuran	132-64-9	< 36	36	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 360	360	110	1
10726	2,4-Dichlorophenol	120-83-2	< 36	36	18	1
10726	Diethylphthalate	84-66-2	< 180	180	73	1
10726	2,4-Dimethylphenol	105-67-9	< 36	36	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	73	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 540	540	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	330	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	73	1
10726	2,6-Dinitrotoluene	606-20-2	< 36	36	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	73	1
10726	Fluoranthene	206-44-0	25	18	4	1
10726	Fluorene	86-73-7	< 18	18	4	1
10726	Hexachlorobenzene	118-74-1	< 18	18	4	1
10726	Hexachlorobutadiene	87-68-3	< 36	36	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 540	540	180	1
10726	Hexachloroethane	67-72-1	< 180	180	36	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	4	1
10726	Isophorone	78-59-1	< 36	36	18	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	4	1
10726	2-Methylphenol	95-48-7	< 36	36	18	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260964
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW102

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 36	36	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	4	1
10726	2-Nitroaniline	88-74-4	< 36	36	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	73	1
10726	4-Nitroaniline	100-01-6	< 180	180	73	1
10726	Nitrobenzene	98-95-3	< 36	36	18	1
10726	2-Nitrophenol	88-75-5	< 36	36	18	1
10726	4-Nitrophenol	100-02-7	< 540	540	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 36	36	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 36	36	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	73	1
10726	Pentachlorophenol	87-86-5	< 180	180	36	1
10726	Phenanthrene	85-01-8	19	18	4	1
10726	Phenol	108-95-2	< 36	36	18	1
10726	Pyrene	129-00-0	22	18	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 36	36	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 36	36	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	42	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	42	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 320	320	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 320	320	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	42	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	42	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	42	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	42	1
13413	HMX	2691-41-0	< 320	320	110	1
13413	Nitrobenzene	98-95-3	< 320	320	110	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	840	1
13413	2-Nitrotoluene	88-72-2	< 130	130	42	1
13413	3-Nitrotoluene	99-08-1	< 130	130	42	1
13413	4-Nitrotoluene	99-99-0	< 130	130	42	1
13413	PETN	78-11-5	< 2,500	2,500	840	1
13413	RDX	121-82-4	< 130	130	42	1
13413	Tetryl	479-45-8	< 320	320	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	42	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	42	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 94	94	20	5
10885	PCB-1221	11104-28-2	< 94	94	25	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260964
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW102

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 94	94	44	5
10885	PCB-1242	53469-21-9	< 94	94	18	5
10885	PCB-1248	12672-29-6	270	94	18	5
10885	PCB-1254	11097-69-1	170	94	18	5
10885	PCB-1260	11096-82-5	< 94	94	27	5
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.5	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	18,500	38.7	7.42	1
06946	Barium	7440-39-3	128	0.968	0.116	1
01650	Calcium	7440-70-2	1,770	38.7	3.22	1
06952	Cobalt	7440-48-4	8.70	0.968	0.0784	1
06953	Copper	7440-50-8	1,550	9.68	1.55	5
01654	Iron	7439-89-6	43,500	194	16.1	5
06955	Lead	7439-92-1	131	2.90	0.397	1
01657	Magnesium	7439-95-4	2,950	19.4	1.62	1
06958	Manganese	7439-96-5	503	0.968	0.116	1
06961	Nickel	7440-02-0	43.8	1.94	0.223	1
01662	Potassium	7440-09-7	3,080	96.8	16.3	1
01667	Sodium	7440-23-5	< 194	194	16.2	1
06970	Titanium	7440-32-6	850	1.94	0.358	1
06971	Vanadium	7440-62-2	45.5	0.968	0.223	1
06972	Zinc	7440-66-6	400	3.87	0.746	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	3.31	0.387	0.0639	2
06125	Arsenic	7440-38-2	3.75	0.775	0.145	2
06127	Beryllium	7440-41-7	0.645	0.194	0.0137	2
06128	Cadmium	7440-43-9	2.89	0.194	0.0445	2
06131	Chromium	7440-47-3	27.1	0.775	0.0968	2
06141	Selenium	7782-49-2	< 0.775	0.775	0.0968	2
06142	Silver	7440-22-4	< 0.194	0.194	0.0194	2
06145	Thallium	7440-28-0	0.342	0.194	0.0290	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.209	0.209	0.0104	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260964
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW102

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	14:14	Jennifer K Howe	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	15:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	15:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	15:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016	15:29	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016	12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	16:52	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/09/2016	02:08	Jessica L Miller	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016	16:57	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016	13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:23	Katlin N Cataldi	5
01654	Iron	SW-846 6010C	1	160610637002	03/05/2016	09:23	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016	22:07	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:47	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:47	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:47	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:47	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:47	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:47	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:47	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260964
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW102

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:47	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:29	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260965
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW168

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 21	21	7	0.93
11995	Benzene	71-43-2	< 5	5	0.5	0.93
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.93
11995	Bromoform	75-25-2	< 5	5	1	0.93
11995	Bromomethane	74-83-9	< 5	5	2	0.93
11995	2-Butanone	78-93-3	< 11	11	4	0.93
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.93
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.93
11995	Chlorobenzene	108-90-7	< 5	5	1	0.93
11995	Chloroethane	75-00-3	< 5	5	2	0.93
11995	Chloroform	67-66-3	< 5	5	1	0.93
11995	Chloromethane	74-87-3	< 5	5	2	0.93
11995	Cyclohexane	110-82-7	< 5	5	1	0.93
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.93
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.93
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.93
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.93
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.93
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.93
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.93
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.93
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.93
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.93
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.93
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.93
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.93
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.93
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.93
11995	Ethylbenzene	100-41-4	< 5	5	1	0.93
11995	Freon 113	76-13-1	< 11	11	2	0.93
11995	2-Hexanone	591-78-6	< 11	11	3	0.93
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.93
11995	Methyl Acetate	79-20-9	< 5	5	2	0.93
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.93
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.93
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.93
11995	Methylene Chloride	75-09-2	< 5	5	2	0.93
11995	Styrene	100-42-5	< 5	5	1	0.93
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.93
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.93
11995	Toluene	108-88-3	< 5	5	1	0.93
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.93
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.93
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.93
11995	Trichloroethene	79-01-6	< 5	5	1	0.93
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.93
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.93
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.93
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260965
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW168

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 37	37	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	37	1
10726	Benzaldehyde	100-52-7	< 190	190	75	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	75	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	75	1
10726	Caprolactam	105-60-2	< 190	190	37	1
10726	Carbazole	86-74-8	< 37	37	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	19	1
10726	4-Chloroaniline	106-47-8	< 75	75	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 37	37	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	19	1
10726	Diethylphthalate	84-66-2	< 190	190	75	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 560	560	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	75	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 560	560	190	1
10726	Hexachloroethane	67-72-1	< 190	190	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 37	37	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	19	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260965
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW168

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 37	37	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	75	1
10726	4-Nitroaniline	100-01-6	< 190	190	75	1
10726	Nitrobenzene	98-95-3	< 37	37	19	1
10726	2-Nitrophenol	88-75-5	< 37	37	19	1
10726	4-Nitrophenol	100-02-7	< 560	560	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	75	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 37	37	19	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	880	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,600	2,600	880	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1
10885	PCB-1221	11104-28-2	< 19	19	5.2	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260965
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW168

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 19	19	9.0	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	< 19	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.5	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	13,400	37.6	7.19	1
06946	Barium	7440-39-3	69.0	0.939	0.113	1
01650	Calcium	7440-70-2	160	37.6	3.13	1
06952	Cobalt	7440-48-4	5.17	0.939	0.0761	1
06953	Copper	7440-50-8	17.3	1.88	0.301	1
01654	Iron	7439-89-6	13,800	37.6	3.13	1
06955	Lead	7439-92-1	5.65	2.82	0.385	1
01657	Magnesium	7439-95-4	1,760	18.8	1.57	1
06958	Manganese	7439-96-5	247	0.939	0.113	1
06961	Nickel	7440-02-0	5.89	1.88	0.216	1
01662	Potassium	7440-09-7	1,300	93.9	15.8	1
01667	Sodium	7440-23-5	< 188	188	15.7	1
06970	Titanium	7440-32-6	685	1.88	0.347	1
06971	Vanadium	7440-62-2	29.5	0.939	0.216	1
06972	Zinc	7440-66-6	28.1	3.76	0.723	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.376	0.376	0.0620	2
06125	Arsenic	7440-38-2	1.73	0.751	0.141	2
06127	Beryllium	7440-41-7	0.587	0.188	0.0133	2
06128	Cadmium	7440-43-9	< 0.188	0.188	0.0432	2
06131	Chromium	7440-47-3	14.5	0.751	0.0939	2
06141	Selenium	7782-49-2	< 0.751	0.751	0.0939	2
06142	Silver	7440-22-4	< 0.188	0.188	0.0188	2
06145	Thallium	7440-28-0	< 0.188	0.188	0.0282	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.221	0.221	0.0111	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260965
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW168

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	14:37	Jennifer K Howe	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	15:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	15:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	15:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016	18:16	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016	12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	17:28	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/07/2016	23:21	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160630033A	03/05/2016	17:15	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160630033A	03/04/2016	13:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:26	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/03/2016	22:11	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:50	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:50	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:50	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:50	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:50	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:50	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:50	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260965
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW168

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:50	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:31	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260966
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW112

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 21	21	7	1
11995	Benzene	71-43-2	< 5	5	0.5	1
11995	Bromodichloromethane	75-27-4	< 5	5	1	1
11995	Bromoform	75-25-2	< 5	5	1	1
11995	Bromomethane	74-83-9	< 5	5	2	1
11995	2-Butanone	78-93-3	< 10	10	4	1
11995	Carbon Disulfide	75-15-0	< 5	5	1	1
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1
11995	Chlorobenzene	108-90-7	< 5	5	1	1
11995	Chloroethane	75-00-3	< 5	5	2	1
11995	Chloroform	67-66-3	< 5	5	1	1
11995	Chloromethane	74-87-3	< 5	5	2	1
11995	Cyclohexane	110-82-7	< 5	5	1	1
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11995	Dibromochloromethane	124-48-1	< 5	5	1	1
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1
11995	Ethylbenzene	100-41-4	< 5	5	1	1
11995	Freon 113	76-13-1	< 10	10	2	1
11995	2-Hexanone	591-78-6	< 10	10	3	1
11995	Isopropylbenzene	98-82-8	< 5	5	1	1
11995	Methyl Acetate	79-20-9	< 5	5	2	1
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11995	Methylcyclohexane	108-87-2	< 5	5	1	1
11995	Methylene Chloride	75-09-2	< 5	5	2	1
11995	Styrene	100-42-5	< 5	5	1	1
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1
11995	Tetrachloroethene	127-18-4	< 5	5	1	1
11995	Toluene	108-88-3	< 5	5	1	1
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1
11995	Trichloroethene	79-01-6	< 5	5	1	1
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1
11995	Vinyl Chloride	75-01-4	< 5	5	1	1
11995	Xylene (Total)	1330-20-7	< 5	5	1	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 17	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260966
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW112

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 17	17	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 17	17	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	68	1
10726	Benzo(a)anthracene	56-55-3	< 17	17	3	1
10726	Benzo(a)pyrene	50-32-8	< 17	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 17	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 17	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 17	17	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	68	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	68	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 68	68	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 34	34	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 17	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 17	17	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	68	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	68	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 510	510	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	310	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	68	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 170	170	68	1
10726	Fluoranthene	206-44-0	< 17	17	3	1
10726	Fluorene	86-73-7	< 17	17	3	1
10726	Hexachlorobenzene	118-74-1	< 17	17	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 510	510	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 17	17	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 17	17	3	1
10726	2-Methylphenol	95-48-7	< 34	34	17	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260966
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW112

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 17	17	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	68	1
10726	4-Nitroaniline	100-01-6	< 170	170	68	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 510	510	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	68	1
10726	Pentachlorophenol	87-86-5	< 170	170	34	1
10726	Phenanthrene	85-01-8	< 17	17	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 17	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	39	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	39	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 290	290	98	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 290	290	98	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	39	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	39	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	39	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	39	1
13413	HMX	2691-41-0	< 290	290	98	1
13413	Nitrobenzene	98-95-3	< 290	290	98	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	780	1
13413	2-Nitrotoluene	88-72-2	< 120	120	39	1
13413	3-Nitrotoluene	99-08-1	< 120	120	39	1
13413	4-Nitrotoluene	99-99-0	< 120	120	39	1
13413	PETN	78-11-5	< 2,400	2,400	780	1
13413	RDX	121-82-4	< 120	120	39	1
13413	Tetryl	479-45-8	< 290	290	98	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	39	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	39	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.7	1
10885	PCB-1221	11104-28-2	< 17	17	4.7	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260966
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW112

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 17	17	8.2	1
10885	PCB-1242	53469-21-9	< 17	17	3.4	1
10885	PCB-1248	12672-29-6	< 17	17	3.4	1
10885	PCB-1254	11097-69-1	< 17	17	3.4	1
10885	PCB-1260	11096-82-5	< 17	17	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	2,290	31.3	6.00	1
06946	Barium	7440-39-3	10.5	0.784	0.0940	1
01650	Calcium	7440-70-2	60.7	31.3	2.61	1
06952	Cobalt	7440-48-4	2.83	0.784	0.0635	1
06953	Copper	7440-50-8	2.47	1.57	0.251	1
01654	Iron	7439-89-6	3,420	31.3	2.61	1
06955	Lead	7439-92-1	< 2.35	2.35	0.321	1
01657	Magnesium	7439-95-4	156	15.7	1.31	1
06958	Manganese	7439-96-5	219	0.784	0.0940	1
06961	Nickel	7440-02-0	< 1.57	1.57	0.180	1
01662	Potassium	7440-09-7	130	78.4	13.2	1
01667	Sodium	7440-23-5	< 157	157	13.1	1
06970	Titanium	7440-32-6	95.7	1.57	0.290	1
06971	Vanadium	7440-62-2	5.11	0.784	0.180	1
06972	Zinc	7440-66-6	3.58	3.13	0.603	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.313	0.313	0.0517	2
06125	Arsenic	7440-38-2	< 0.627	0.627	0.118	2
06127	Beryllium	7440-41-7	< 0.157	0.157	0.0111	2
06128	Cadmium	7440-43-9	< 0.157	0.157	0.0361	2
06131	Chromium	7440-47-3	4.56	0.627	0.0784	2
06141	Selenium	7782-49-2	< 0.627	0.627	0.0784	2
06142	Silver	7440-22-4	< 0.157	0.157	0.0157	2
06145	Thallium	7440-28-0	< 0.157	0.157	0.0235	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.197	0.197	0.0098	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	2.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260966
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW112

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	15:00	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	15:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	15:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	15:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016	16:23	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016	12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	18:05	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/07/2016	23:55	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/08/2016	22:29	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/05/2016	09:30	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:30	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06971	Vanadium	SW-846 6010C	1	160610637002	03/03/2016	22:14	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	160610637002	03/05/2016	09:30	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:53	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:53	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:53	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:53	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:53	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:53	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016	11:53	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260966
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 15:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

MW112

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:53	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:33	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-022516A Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260967
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

TBA--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 20	20	7	1
11995	Benzene	71-43-2	< 5	5	0.5	1
11995	Bromodichloromethane	75-27-4	< 5	5	1	1
11995	Bromoform	75-25-2	< 5	5	1	1
11995	Bromomethane	74-83-9	< 5	5	2	1
11995	2-Butanone	78-93-3	< 10	10	4	1
11995	Carbon Disulfide	75-15-0	< 5	5	1	1
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1
11995	Chlorobenzene	108-90-7	< 5	5	1	1
11995	Chloroethane	75-00-3	< 5	5	2	1
11995	Chloroform	67-66-3	< 5	5	1	1
11995	Chloromethane	74-87-3	< 5	5	2	1
11995	Cyclohexane	110-82-7	< 5	5	1	1
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11995	Dibromochloromethane	124-48-1	< 5	5	1	1
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1
11995	Ethylbenzene	100-41-4	< 5	5	1	1
11995	Freon 113	76-13-1	< 10	10	2	1
11995	2-Hexanone	591-78-6	< 10	10	3	1
11995	Isopropylbenzene	98-82-8	< 5	5	1	1
11995	Methyl Acetate	79-20-9	< 5	5	2	1
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11995	Methylcyclohexane	108-87-2	< 5	5	1	1
11995	Methylene Chloride	75-09-2	< 5	5	2	1
11995	Styrene	100-42-5	< 5	5	1	1
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1
11995	Tetrachloroethene	127-18-4	< 5	5	1	1
11995	Toluene	108-88-3	< 5	5	1	1
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1
11995	Trichloroethene	79-01-6	< 5	5	1	1
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1
11995	Vinyl Chloride	75-01-4	< 5	5	1	1
11995	Xylene (Total)	1330-20-7	< 5	5	1	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-022516A Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260967
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

TBA--

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016 10:29	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 17:15	Client Supplied	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260968
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 16:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB402

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	83	23	8	0.94
11995	Benzene	71-43-2	< 6	6	0.6	0.94
11995	Bromodichloromethane	75-27-4	< 6	6	1	0.94
11995	Bromoform	75-25-2	< 6	6	1	0.94
11995	Bromomethane	74-83-9	< 6	6	2	0.94
11995	2-Butanone	78-93-3	< 12	12	5	0.94
11995	Carbon Disulfide	75-15-0	< 6	6	1	0.94
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	0.94
11995	Chlorobenzene	108-90-7	< 6	6	1	0.94
11995	Chloroethane	75-00-3	< 6	6	2	0.94
11995	Chloroform	67-66-3	< 6	6	1	0.94
11995	Chloromethane	74-87-3	< 6	6	2	0.94
11995	Cyclohexane	110-82-7	< 6	6	1	0.94
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	0.94
11995	Dibromochloromethane	124-48-1	< 6	6	1	0.94
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	0.94
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	0.94
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	0.94
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	0.94
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	0.94
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	0.94
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	0.94
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	0.94
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	0.94
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	0.94
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	0.94
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	0.94
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	0.94
11995	Ethylbenzene	100-41-4	< 6	6	1	0.94
11995	Freon 113	76-13-1	< 12	12	2	0.94
11995	2-Hexanone	591-78-6	< 12	12	3	0.94
11995	Isopropylbenzene	98-82-8	< 6	6	1	0.94
11995	Methyl Acetate	79-20-9	< 6	6	2	0.94
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	0.94
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	3	0.94
11995	Methylcyclohexane	108-87-2	< 6	6	1	0.94
11995	Methylene Chloride	75-09-2	< 6	6	2	0.94
11995	Styrene	100-42-5	< 6	6	1	0.94
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	0.94
11995	Tetrachloroethene	127-18-4	< 6	6	1	0.94
11995	Toluene	108-88-3	< 6	6	1	0.94
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	0.94
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	0.94
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	0.94
11995	Trichloroethene	79-01-6	< 6	6	1	0.94
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	0.94
11995	Vinyl Chloride	75-01-4	< 6	6	1	0.94
11995	Xylene (Total)	1330-20-7	< 6	6	1	0.94
GC/MS Semivolatiles	**SW-846 8270D**		ug/kg	ug/kg	ug/kg	
10726	Acenaphthene	83-32-9	550	100	20	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260968
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 16:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB402

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	190	100	20	5
10726	Acetophenone	98-86-2	< 210	210	100	5
10726	Anthracene	120-12-7	1,000	100	20	5
10726	Atrazine	1912-24-9	< 1,000	1,000	210	5
10726	Benzaldehyde	100-52-7	< 1,000	1,000	410	5
10726	Benzo(a)anthracene	56-55-3	2,300	100	20	5
10726	Benzo(a)pyrene	50-32-8	2,600	100	20	5
10726	Benzo(b)fluoranthene	205-99-2	3,900	100	20	5
10726	Benzo(g,h,i)perylene	191-24-2	2,500	100	20	5
10726	Benzo(k)fluoranthene	207-08-9	1,400	100	20	5
10726	1,1'-Biphenyl	92-52-4	< 210	210	100	5
10726	4-Bromophenyl-phenylether	101-55-3	< 210	210	100	5
10726	Butylbenzylphthalate	85-68-7	< 1,000	1,000	410	5
10726	Di-n-butylphthalate	84-74-2	< 1,000	1,000	410	5
10726	Caprolactam	105-60-2	< 1,000	1,000	210	5
10726	Carbazole	86-74-8	560	210	100	5
10726	4-Chloro-3-methylphenol	59-50-7	< 210	210	100	5
10726	4-Chloroaniline	106-47-8	< 410	410	210	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 210	210	100	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 210	210	100	5
10726	2-Chloronaphthalene	91-58-7	< 200	200	41	5
10726	2-Chlorophenol	95-57-8	< 210	210	100	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 210	210	100	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 210	210	100	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	2,600	100	20	5
10726	Dibenz(a,h)anthracene	53-70-3	710	100	20	5
10726	Dibenzofuran	132-64-9	280	210	100	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 2,100	2,100	620	5
10726	2,4-Dichlorophenol	120-83-2	< 210	210	100	5
10726	Diethylphthalate	84-66-2	< 1,000	1,000	410	5
10726	2,4-Dimethylphenol	105-67-9	< 210	210	100	5
10726	Dimethylphthalate	131-11-3	< 1,000	1,000	410	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 3,100	3,100	1,000	5
10726	2,4-Dinitrophenol	51-28-5	< 6,200	6,200	1,800	5
10726	2,4-Dinitrotoluene	121-14-2	< 1,000	1,000	410	5
10726	2,6-Dinitrotoluene	606-20-2	< 210	210	100	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	2,400	1,000	410	5
10726	Fluoranthene	206-44-0	4,100	100	20	5
10726	Fluorene	86-73-7	480	100	20	5
10726	Hexachlorobenzene	118-74-1	< 100	100	20	5
10726	Hexachlorobutadiene	87-68-3	< 210	210	100	5
10726	Hexachlorocyclopentadiene	77-47-4	< 3,100	3,100	1,000	5
10726	Hexachloroethane	67-72-1	< 1,000	1,000	210	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	2,200	100	20	5
10726	Isophorone	78-59-1	< 210	210	100	5
10726	2-Methylnaphthalene	91-57-6	310	100	20	5
10726	2-Methylphenol	95-48-7	< 210	210	100	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260968
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 16:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB402

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 210	210	100	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	420	100	20	5
10726	2-Nitroaniline	88-74-4	< 210	210	100	5
10726	3-Nitroaniline	99-09-2	< 1,000	1,000	410	5
10726	4-Nitroaniline	100-01-6	< 1,000	1,000	410	5
10726	Nitrobenzene	98-95-3	< 210	210	100	5
10726	2-Nitrophenol	88-75-5	< 210	210	100	5
10726	4-Nitrophenol	100-02-7	< 3,100	3,100	1,000	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 210	210	100	5
10726	N-Nitrosodiphenylamine	86-30-6	< 210	210	100	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 1,000	1,000	410	5
10726	Pentachlorophenol	87-86-5	< 1,000	1,000	210	5
10726	Phenanthrene	85-01-8	3,200	100	20	5
10726	Phenol	108-95-2	2,200	210	100	5
10726	Pyrene	129-00-0	3,300	100	20	5
10726	2,4,5-Trichlorophenol	95-95-4	< 210	210	100	5
10726	2,4,6-Trichlorophenol	88-06-2	< 210	210	100	5
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 150	150	48	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 150	150	48	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 360	360	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 360	360	120	1
13413	3,5-Dinitroaniline	618-87-1	< 150	150	48	1
13413	1,3-Dinitrobenzene	99-65-0	< 150	150	48	1
13413	2,4-Dinitrotoluene	121-14-2	< 150	150	48	1
13413	2,6-Dinitrotoluene	606-20-2	< 150	150	48	1
13413	HMX	2691-41-0	< 360	360	120	1
13413	Nitrobenzene	98-95-3	< 360	360	120	1
13413	Nitroglycerin	55-63-0	< 2,900	2,900	970	1
13413	2-Nitrotoluene	88-72-2	< 150	150	48	1
13413	3-Nitrotoluene	99-08-1	< 150	150	48	1
13413	4-Nitrotoluene	99-99-0	< 150	150	48	1
13413	PETN	78-11-5	< 2,900	2,900	970	1
13413	RDX	121-82-4	< 150	150	48	1
13413	Tetryl	479-45-8	< 360	360	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 150	150	48	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 150	150	48	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 410	410	88	20
10885	PCB-1221	11104-28-2	< 410	410	110	20

*=This limit was used in the evaluation of the final result

Sample Description: SBO-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260968
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 16:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 410	410	190	20
10885	PCB-1242	53469-21-9	< 410	410	80	20
10885	PCB-1248	12672-29-6	5,400	410	80	20
10885	PCB-1254	11097-69-1	6,600	410	80	20
10885	PCB-1260	11096-82-5	< 410	410	120	20
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.2	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	20,100	183	35.1	5
06946	Barium	7440-39-3	209	0.916	0.110	1
01650	Calcium	7440-70-2	11,900	36.6	3.05	1
06952	Cobalt	7440-48-4	17.3	4.58	0.371	5
06953	Copper	7440-50-8	354	9.16	1.47	5
01654	Iron	7439-89-6	120,000	183	15.2	5
06955	Lead	7439-92-1	466	13.7	1.88	5
01657	Magnesium	7439-95-4	3,060	18.3	1.53	1
06958	Manganese	7439-96-5	978	0.916	0.110	1
06961	Nickel	7440-02-0	91.7	9.16	1.05	5
01662	Potassium	7440-09-7	1,500	91.6	15.4	1
01667	Sodium	7440-23-5	360	183	15.3	1
06970	Titanium	7440-32-6	671	9.16	1.69	5
06971	Vanadium	7440-62-2	40.5	4.58	1.05	5
06972	Zinc	7440-66-6	1,190	18.3	3.53	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	4.13	0.366	0.0604	2
06125	Arsenic	7440-38-2	12.9	0.733	0.137	2
06127	Beryllium	7440-41-7	0.789	0.183	0.0130	2
06128	Cadmium	7440-43-9	9.80	0.183	0.0421	2
06131	Chromium	7440-47-3	107	0.733	0.0916	2
06141	Selenium	7782-49-2	< 0.733	0.733	0.0916	2
06142	Silver	7440-22-4	0.538	0.183	0.0183	2
06145	Thallium	7440-28-0	0.224	0.183	0.0275	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.07	0.614	0.0307	2.5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	19.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
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Analysis Report

Sample Description: SBO-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260968
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 16:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB402

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016	19:29	Angela D Sneeringer	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	16:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	16:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	16:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLB026	03/07/2016	18:43	Linda M Hartenstine	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLB026	03/05/2016	12:30	Sally L Appleyard	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	18:42	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016	00:30	Kirby B Turner	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/08/2016	22:47	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160610637002	03/03/2016	22:17	Cindy M Gehman	1
01650	Calcium	SW-846 6010C	1	160610637002	03/03/2016	22:17	Cindy M Gehman	1
06952	Cobalt	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
01654	Iron	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160610637002	03/03/2016	22:17	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	160610637002	03/03/2016	22:17	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
01662	Potassium	SW-846 6010C	1	160610637002	03/03/2016	22:17	Cindy M Gehman	1
01667	Sodium	SW-846 6010C	1	160610637002	03/03/2016	22:17	Cindy M Gehman	1
06970	Titanium	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160610637002	03/05/2016	09:33	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160610637002A	03/07/2016	11:56	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160610637002A	03/07/2016	11:56	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160610637002A	03/07/2016	11:56	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160610637002A	03/07/2016	11:56	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160610637002A	03/07/2016	11:56	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160610637002B	03/07/2016	11:56	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-04-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260968
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 16:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB402

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160610637002A	03/07/2016 11:56	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160610637002A	03/07/2016 11:56	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160610638002	03/03/2016 07:39	Damary Valentin	2.5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160610637002	03/02/2016 07:32	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160610638002	03/02/2016 12:01	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-04-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260969
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB468

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	20	19	7	0.85
11995	Benzene	71-43-2	< 5	5	0.5	0.85
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.85
11995	Bromoform	75-25-2	< 5	5	1	0.85
11995	Bromomethane	74-83-9	< 5	5	2	0.85
11995	2-Butanone	78-93-3	< 10	10	4	0.85
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.85
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.85
11995	Chlorobenzene	108-90-7	< 5	5	1	0.85
11995	Chloroethane	75-00-3	< 5	5	2	0.85
11995	Chloroform	67-66-3	< 5	5	1	0.85
11995	Chloromethane	74-87-3	< 5	5	2	0.85
11995	Cyclohexane	110-82-7	< 5	5	1	0.85
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.85
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.85
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.85
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.85
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.85
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.85
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.85
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.85
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.85
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.85
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.85
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.85
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.85
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.85
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.85
11995	Ethylbenzene	100-41-4	< 5	5	1	0.85
11995	Freon 113	76-13-1	< 10	10	2	0.85
11995	2-Hexanone	591-78-6	< 10	10	3	0.85
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.85
11995	Methyl Acetate	79-20-9	< 5	5	2	0.85
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.85
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.85
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.85
11995	Methylene Chloride	75-09-2	< 5	5	2	0.85
11995	Styrene	100-42-5	< 5	5	1	0.85
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.85
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.85
11995	Toluene	108-88-3	< 5	5	1	0.85
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.85
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.85
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.85
11995	Trichloroethene	79-01-6	< 5	5	1	0.85
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.85
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.85
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.85
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-04-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260969
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB468

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 37	37	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	37	1
10726	Benzaldehyde	100-52-7	< 190	190	75	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	75	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	75	1
10726	Caprolactam	105-60-2	< 190	190	37	1
10726	Carbazole	86-74-8	< 37	37	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	19	1
10726	4-Chloroaniline	106-47-8	< 75	75	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 37	37	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	19	1
10726	Diethylphthalate	84-66-2	< 190	190	75	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 560	560	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	75	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 560	560	190	1
10726	Hexachloroethane	67-72-1	< 190	190	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 37	37	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	19	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-04-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260969
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB468

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 37	37	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	75	1
10726	4-Nitroaniline	100-01-6	< 190	190	75	1
10726	Nitrobenzene	98-95-3	< 37	37	19	1
10726	2-Nitrophenol	88-75-5	< 37	37	19	1
10726	4-Nitrophenol	100-02-7	< 560	560	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	75	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 37	37	19	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	880	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,600	2,600	880	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1
10885	PCB-1221	11104-28-2	< 19	19	5.2	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-04-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260969
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB468

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 19	19	9.1	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	< 19	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.6	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	11,400	45.0	8.61	1
06946	Barium	7440-39-3	33.3	1.12	0.135	1
01650	Calcium	7440-70-2	257	45.0	3.74	1
06952	Cobalt	7440-48-4	3.60	1.12	0.0910	1
06953	Copper	7440-50-8	13.8	2.25	0.360	1
01654	Iron	7439-89-6	9,820	45.0	3.74	1
06955	Lead	7439-92-1	4.27	3.37	0.461	1
01657	Magnesium	7439-95-4	1,040	22.5	1.88	1
06958	Manganese	7439-96-5	138	1.12	0.135	1
06961	Nickel	7440-02-0	4.09	2.25	0.258	1
01662	Potassium	7440-09-7	885	112	18.9	1
01667	Sodium	7440-23-5	< 225	225	18.8	1
06970	Titanium	7440-32-6	595	2.25	0.416	1
06971	Vanadium	7440-62-2	21.0	1.12	0.258	1
06972	Zinc	7440-66-6	17.4	4.50	0.865	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.450	0.450	0.0742	2
06125	Arsenic	7440-38-2	< 0.899	0.899	0.169	2
06127	Beryllium	7440-41-7	0.402	0.225	0.0160	2
06128	Cadmium	7440-43-9	< 0.225	0.225	0.0517	2
06131	Chromium	7440-47-3	10.1	0.899	0.112	2
06141	Selenium	7782-49-2	< 0.899	0.899	0.112	2
06142	Silver	7440-22-4	< 0.225	0.225	0.0225	2
06145	Thallium	7440-28-0	< 0.225	0.225	0.0337	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.225	0.225	0.0112	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-04-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260969
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016 16:30	Jennifer K Howe	0.85
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 17:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 17:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 17:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016 04:41	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016 12:10	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016 19:19	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016 00:41	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016 23:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016 14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/08/2016 23:05	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016 09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 00:50	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 00:50	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016 07:41	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:13	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 17:02	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 17:02	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 17:02	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:13	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:02	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-04-6-8-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260969
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:02	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:02	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:39	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-DUP-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260970
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SDP2-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 23	23	8	0.95
11995	Benzene	71-43-2	< 6	6	0.6	0.95
11995	Bromodichloromethane	75-27-4	< 6	6	1	0.95
11995	Bromoform	75-25-2	< 6	6	1	0.95
11995	Bromomethane	74-83-9	< 6	6	2	0.95
11995	2-Butanone	78-93-3	< 11	11	5	0.95
11995	Carbon Disulfide	75-15-0	< 6	6	1	0.95
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	0.95
11995	Chlorobenzene	108-90-7	< 6	6	1	0.95
11995	Chloroethane	75-00-3	< 6	6	2	0.95
11995	Chloroform	67-66-3	< 6	6	1	0.95
11995	Chloromethane	74-87-3	< 6	6	2	0.95
11995	Cyclohexane	110-82-7	< 6	6	1	0.95
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	0.95
11995	Dibromochloromethane	124-48-1	< 6	6	1	0.95
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	0.95
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	0.95
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	0.95
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	0.95
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	0.95
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	0.95
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	0.95
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	0.95
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	0.95
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	0.95
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	0.95
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	0.95
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	0.95
11995	Ethylbenzene	100-41-4	< 6	6	1	0.95
11995	Freon 113	76-13-1	< 11	11	2	0.95
11995	2-Hexanone	591-78-6	< 11	11	3	0.95
11995	Isopropylbenzene	98-82-8	< 6	6	1	0.95
11995	Methyl Acetate	79-20-9	15	6	2	0.95
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	0.95
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.95
11995	Methylcyclohexane	108-87-2	< 6	6	1	0.95
11995	Methylene Chloride	75-09-2	< 6	6	2	0.95
11995	Styrene	100-42-5	< 6	6	1	0.95
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	0.95
11995	Tetrachloroethene	127-18-4	6	6	1	0.95
11995	Toluene	108-88-3	< 6	6	1	0.95
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	0.95
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	0.95
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	0.95
11995	Trichloroethene	79-01-6	< 6	6	1	0.95
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	0.95
11995	Vinyl Chloride	75-01-4	< 6	6	1	0.95
11995	Xylene (Total)	1330-20-7	< 6	6	1	0.95

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: SS-DUP-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260970
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SDP2-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	acceptance limits, indicating a matrix effect. The data is reported from the initial trial.					
GC/MS Semivolatiles		**SW-846 8270D**	**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 100	100	20	5
10726	Acenaphthylene	208-96-8	< 100	100	20	5
10726	Acetophenone	98-86-2	< 200	200	100	5
10726	Anthracene	120-12-7	< 100	100	20	5
10726	Atrazine	1912-24-9	< 1,000	1,000	200	5
10726	Benzaldehyde	100-52-7	< 1,000	1,000	400	5
10726	Benzo(a)anthracene	56-55-3	170	100	20	5
10726	Benzo(a)pyrene	50-32-8	< 100	100	20	5
10726	Benzo(b)fluoranthene	205-99-2	180	100	20	5
10726	Benzo(g,h,i)perylene	191-24-2	150	100	20	5
10726	Benzo(k)fluoranthene	207-08-9	< 100	100	20	5
10726	1,1'-Biphenyl	92-52-4	< 200	200	100	5
10726	4-Bromophenyl-phenylether	101-55-3	< 200	200	100	5
10726	Butylbenzylphthalate	85-68-7	< 1,000	1,000	400	5
10726	Di-n-butylphthalate	84-74-2	< 1,000	1,000	400	5
10726	Caprolactam	105-60-2	< 1,000	1,000	200	5
10726	Carbazole	86-74-8	< 200	200	100	5
10726	4-Chloro-3-methylphenol	59-50-7	< 200	200	100	5
10726	4-Chloroaniline	106-47-8	< 400	400	200	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 200	200	100	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 200	200	100	5
10726	2-Chloronaphthalene	91-58-7	< 200	200	40	5
10726	2-Chlorophenol	95-57-8	< 200	200	100	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 200	200	100	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 200	200	100	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	300	100	20	5
10726	Dibenz(a,h)anthracene	53-70-3	< 100	100	20	5
10726	Dibenzofuran	132-64-9	300	200	100	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 2,000	2,000	600	5
10726	2,4-Dichlorophenol	120-83-2	< 200	200	100	5
10726	Diethylphthalate	84-66-2	< 1,000	1,000	400	5
10726	2,4-Dimethylphenol	105-67-9	< 200	200	100	5
10726	Dimethylphthalate	131-11-3	< 1,000	1,000	400	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 3,000	3,000	1,000	5
10726	2,4-Dinitrophenol	51-28-5	< 6,000	6,000	1,800	5
10726	2,4-Dinitrotoluene	121-14-2	< 1,000	1,000	400	5
10726	2,6-Dinitrotoluene	606-20-2	< 200	200	100	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 1,000	1,000	400	5
10726	Fluoranthene	206-44-0	170	100	20	5
10726	Fluorene	86-73-7	< 100	100	20	5
10726	Hexachlorobenzene	118-74-1	< 100	100	20	5
10726	Hexachlorobutadiene	87-68-3	< 200	200	100	5
10726	Hexachlorocyclopentadiene	77-47-4	< 3,000	3,000	1,000	5
10726	Hexachloroethane	67-72-1	< 1,000	1,000	200	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 100	100	20	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-DUP-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260970
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SDP2-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 200	200	100	5
10726	2-Methylnaphthalene	91-57-6	970	100	20	5
10726	2-Methylphenol	95-48-7	< 200	200	100	5
10726	4-Methylphenol	106-44-5	< 200	200	100	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	580	100	20	5
10726	2-Nitroaniline	88-74-4	< 200	200	100	5
10726	3-Nitroaniline	99-09-2	< 1,000	1,000	400	5
10726	4-Nitroaniline	100-01-6	< 1,000	1,000	400	5
10726	Nitrobenzene	98-95-3	< 200	200	100	5
10726	2-Nitrophenol	88-75-5	< 200	200	100	5
10726	4-Nitrophenol	100-02-7	< 3,000	3,000	1,000	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 200	200	100	5
10726	N-Nitrosodiphenylamine	86-30-6	< 200	200	100	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 1,000	1,000	400	5
10726	Pentachlorophenol	87-86-5	< 1,000	1,000	200	5
10726	Phenanthrene	85-01-8	730	100	20	5
10726	Phenol	108-95-2	< 200	200	100	5
10726	Pyrene	129-00-0	220	100	20	5
10726	2,4,5-Trichlorophenol	95-95-4	< 200	200	100	5
10726	2,4,6-Trichlorophenol	88-06-2	< 200	200	100	5
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.3	1
10885	PCB-1221	11104-28-2	< 20	20	5.5	1
10885	PCB-1232	11141-16-5	< 20	20	9.6	1
10885	PCB-1242	53469-21-9	< 20	20	4.0	1
10885	PCB-1248	12672-29-6	< 20	20	4.0	1
10885	PCB-1254	11097-69-1	< 20	20	4.0	1
10885	PCB-1260	11096-82-5	< 20	20	5.9	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.0	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	13,100	46.3	8.86	1
06946	Barium	7440-39-3	229	1.16	0.139	1
01650	Calcium	7440-70-2	3,240	46.3	3.85	1
06952	Cobalt	7440-48-4	7.33	1.16	0.0937	1
06953	Copper	7440-50-8	118	2.31	0.370	1
01654	Iron	7439-89-6	20,800	46.3	3.85	1
06955	Lead	7439-92-1	522	3.47	0.474	1
01657	Magnesium	7439-95-4	1,710	23.1	1.93	1
06958	Manganese	7439-96-5	161	1.16	0.139	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-DUP-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260970
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SDP2-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06961	Nickel	7440-02-0	14.6	2.31	0.266	1
01662	Potassium	7440-09-7	2,070	116	19.4	1
01667	Sodium	7440-23-5	< 231	231	19.3	1
06970	Titanium	7440-32-6	762	2.31	0.428	1
06971	Vanadium	7440-62-2	52.1	1.16	0.266	1
06972	Zinc	7440-66-6	44.2	4.63	0.891	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	25.7	0.463	0.0764	2
06125	Arsenic	7440-38-2	26.9	0.926	0.174	2
06127	Beryllium	7440-41-7	0.853	0.231	0.0164	2
06128	Cadmium	7440-43-9	0.684	0.231	0.0532	2
06131	Chromium	7440-47-3	18.2	0.926	0.116	2
06141	Selenium	7782-49-2	1.61	0.926	0.116	2
06142	Silver	7440-22-4	0.296	0.231	0.0231	2
06145	Thallium	7440-28-0	< 0.231	0.231	0.0347	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.418	0.237	0.0119	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	16.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016 16:52	Jennifer K Howe	0.95
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 12:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016 05:04	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016 12:10	Benjamin J Rosenberger	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-DUP-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260970
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 12:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SDP2-

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016	00:53	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/08/2016	23:23	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	01:00	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	01:00	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	07:44	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:18	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:05	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:05	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:05	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:18	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016	17:05	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016	17:05	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016	17:05	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016	08:41	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016	22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016	08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-4-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260971
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB412

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 24	24	8	1.11
11995	Benzene	71-43-2	< 6	6	0.6	1.11
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.11
11995	Bromoform	75-25-2	< 6	6	1	1.11
11995	Bromomethane	74-83-9	< 6	6	2	1.11
11995	2-Butanone	78-93-3	< 12	12	5	1.11
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.11
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.11
11995	Chlorobenzene	108-90-7	< 6	6	1	1.11
11995	Chloroethane	75-00-3	< 6	6	2	1.11
11995	Chloroform	67-66-3	< 6	6	1	1.11
11995	Chloromethane	74-87-3	< 6	6	2	1.11
11995	Cyclohexane	110-82-7	< 6	6	1	1.11
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	1.11
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.11
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.11
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.11
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.11
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.11
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	1.11
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.11
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.11
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.11
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.11
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.11
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.11
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.11
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.11
11995	Ethylbenzene	100-41-4	< 6	6	1	1.11
11995	Freon 113	76-13-1	< 12	12	2	1.11
11995	2-Hexanone	591-78-6	< 12	12	4	1.11
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.11
11995	Methyl Acetate	79-20-9	< 6	6	2	1.11
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.11
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	4	1.11
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.11
11995	Methylene Chloride	75-09-2	< 6	6	2	1.11
11995	Styrene	100-42-5	< 6	6	1	1.11
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.11
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.11
11995	Toluene	108-88-3	< 6	6	1	1.11
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.11
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.11
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.11
11995	Trichloroethene	79-01-6	< 6	6	1	1.11
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	1.11
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.11
11995	Xylene (Total)	1330-20-7	< 6	6	1	1.11
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-4-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260971
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB412

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	4	1
10726	Acetophenone	98-86-2	< 35	35	18	1
10726	Anthracene	120-12-7	< 18	18	4	1
10726	Atrazine	1912-24-9	< 180	180	35	1
10726	Benzaldehyde	100-52-7	< 180	180	71	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	4	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	4	1
10726	1,1'-Biphenyl	92-52-4	< 35	35	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 35	35	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	71	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	71	1
10726	Caprolactam	105-60-2	< 180	180	35	1
10726	Carbazole	86-74-8	< 35	35	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 35	35	18	1
10726	4-Chloroaniline	106-47-8	< 71	71	35	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 35	35	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 35	35	18	1
10726	2-Chloronaphthalene	91-58-7	< 35	35	7	1
10726	2-Chlorophenol	95-57-8	< 35	35	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 35	35	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 35	35	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	4	1
10726	Dibenzofuran	132-64-9	< 35	35	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 350	350	110	1
10726	2,4-Dichlorophenol	120-83-2	< 35	35	18	1
10726	Diethylphthalate	84-66-2	< 180	180	71	1
10726	2,4-Dimethylphenol	105-67-9	< 35	35	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	71	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 530	530	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	320	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	71	1
10726	2,6-Dinitrotoluene	606-20-2	< 35	35	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	71	1
10726	Fluoranthene	206-44-0	< 18	18	4	1
10726	Fluorene	86-73-7	< 18	18	4	1
10726	Hexachlorobenzene	118-74-1	< 18	18	4	1
10726	Hexachlorobutadiene	87-68-3	< 35	35	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 530	530	180	1
10726	Hexachloroethane	67-72-1	< 180	180	35	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	4	1
10726	Isophorone	78-59-1	< 35	35	18	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	4	1
10726	2-Methylphenol	95-48-7	< 35	35	18	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-4-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260971
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB412

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 35	35	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	4	1
10726	2-Nitroaniline	88-74-4	< 35	35	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	71	1
10726	4-Nitroaniline	100-01-6	< 180	180	71	1
10726	Nitrobenzene	98-95-3	< 35	35	18	1
10726	2-Nitrophenol	88-75-5	< 35	35	18	1
10726	4-Nitrophenol	100-02-7	< 530	530	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 35	35	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 35	35	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	71	1
10726	Pentachlorophenol	87-86-5	< 180	180	35	1
10726	Phenanthrene	85-01-8	< 18	18	4	1
10726	Phenol	108-95-2	< 35	35	18	1
10726	Pyrene	129-00-0	< 18	18	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 35	35	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 35	35	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	820	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,500	2,500	820	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.8	1
10885	PCB-1221	11104-28-2	< 18	18	4.9	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-4-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260971
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB412

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 18	18	8.5	1
10885	PCB-1242	53469-21-9	< 18	18	3.5	1
10885	PCB-1248	12672-29-6	< 18	18	3.5	1
10885	PCB-1254	11097-69-1	< 18	18	3.5	1
10885	PCB-1260	11096-82-5	< 18	18	5.2	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.3	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,160	42.2	8.08	1
06946	Barium	7440-39-3	15.7	1.05	0.127	1
01650	Calcium	7440-70-2	157	42.2	3.51	1
06952	Cobalt	7440-48-4	1.46	1.05	0.0854	1
06953	Copper	7440-50-8	5.07	2.11	0.337	1
01654	Iron	7439-89-6	4,400	42.2	3.51	1
06955	Lead	7439-92-1	< 3.16	3.16	0.432	1
01657	Magnesium	7439-95-4	271	21.1	1.76	1
06958	Manganese	7439-96-5	120	1.05	0.127	1
06961	Nickel	7440-02-0	< 2.11	2.11	0.243	1
01662	Potassium	7440-09-7	274	105	17.7	1
01667	Sodium	7440-23-5	< 211	211	17.6	1
06970	Titanium	7440-32-6	235	2.11	0.390	1
06971	Vanadium	7440-62-2	8.09	1.05	0.243	1
06972	Zinc	7440-66-6	6.49	4.22	0.812	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.422	0.422	0.0696	2
06125	Arsenic	7440-38-2	< 0.844	0.844	0.158	2
06127	Beryllium	7440-41-7	< 0.211	0.211	0.0150	2
06128	Cadmium	7440-43-9	< 0.211	0.211	0.0485	2
06131	Chromium	7440-47-3	4.79	0.844	0.105	2
06141	Selenium	7782-49-2	< 0.844	0.844	0.105	2
06142	Silver	7440-22-4	< 0.211	0.211	0.0211	2
06145	Thallium	7440-28-0	< 0.211	0.211	0.0316	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.202	0.202	0.0101	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	6.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-4-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260971
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB412

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016	17:15	Jennifer K Howe	1.11
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	17:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	17:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	17:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016	05:28	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016	12:10	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	19:55	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016	01:04	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/08/2016	23:41	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	01:03	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	01:03	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	07:54	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/08/2016	19:06	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:20	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:15	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:15	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:15	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:20	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016	17:15	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-4-12-14-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260971
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:15 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

SB412

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:15	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:15	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:43	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16077820012A	03/17/2016 19:33	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-022516B Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260972
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:30

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

TBB--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 20	20	7	1
11995	Benzene	71-43-2	< 5	5	0.5	1
11995	Bromodichloromethane	75-27-4	< 5	5	1	1
11995	Bromoform	75-25-2	< 5	5	1	1
11995	Bromomethane	74-83-9	< 5	5	2	1
11995	2-Butanone	78-93-3	< 10	10	4	1
11995	Carbon Disulfide	75-15-0	< 5	5	1	1
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1
11995	Chlorobenzene	108-90-7	< 5	5	1	1
11995	Chloroethane	75-00-3	< 5	5	2	1
11995	Chloroform	67-66-3	< 5	5	1	1
11995	Chloromethane	74-87-3	< 5	5	2	1
11995	Cyclohexane	110-82-7	< 5	5	1	1
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11995	Dibromochloromethane	124-48-1	< 5	5	1	1
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1
11995	Ethylbenzene	100-41-4	< 5	5	1	1
11995	Freon 113	76-13-1	< 10	10	2	1
11995	2-Hexanone	591-78-6	< 10	10	3	1
11995	Isopropylbenzene	98-82-8	< 5	5	1	1
11995	Methyl Acetate	79-20-9	< 5	5	2	1
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11995	Methylcyclohexane	108-87-2	< 5	5	1	1
11995	Methylene Chloride	75-09-2	< 5	5	2	1
11995	Styrene	100-42-5	< 5	5	1	1
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1
11995	Tetrachloroethene	127-18-4	< 5	5	1	1
11995	Toluene	108-88-3	< 5	5	1	1
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1
11995	Trichloroethene	79-01-6	< 5	5	1	1
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1
11995	Vinyl Chloride	75-01-4	< 5	5	1	1
11995	Xylene (Total)	1330-20-7	< 5	5	1	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-022516B Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8260972
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:30

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

TBB--

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160642AA	03/04/2016 10:52	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 17:30	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-14-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260973
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

S1402

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	40	26	9	1.13
11995	Benzene	71-43-2	< 7	7	0.7	1.13
11995	Bromodichloromethane	75-27-4	< 7	7	1	1.13
11995	Bromoform	75-25-2	< 7	7	1	1.13
11995	Bromomethane	74-83-9	< 7	7	3	1.13
11995	2-Butanone	78-93-3	< 13	13	5	1.13
11995	Carbon Disulfide	75-15-0	< 7	7	1	1.13
11995	Carbon Tetrachloride	56-23-5	< 7	7	1	1.13
11995	Chlorobenzene	108-90-7	< 7	7	1	1.13
11995	Chloroethane	75-00-3	< 7	7	3	1.13
11995	Chloroform	67-66-3	< 7	7	1	1.13
11995	Chloromethane	74-87-3	< 7	7	3	1.13
11995	Cyclohexane	110-82-7	< 7	7	1	1.13
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 7	7	3	1.13
11995	Dibromochloromethane	124-48-1	< 7	7	1	1.13
11995	1,2-Dibromoethane	106-93-4	< 7	7	1	1.13
11995	1,2-Dichlorobenzene	95-50-1	< 7	7	1	1.13
11995	1,3-Dichlorobenzene	541-73-1	< 7	7	1	1.13
11995	1,4-Dichlorobenzene	106-46-7	< 7	7	1	1.13
11995	Dichlorodifluoromethane	75-71-8	< 7	7	3	1.13
11995	1,1-Dichloroethane	75-34-3	< 7	7	1	1.13
11995	1,2-Dichloroethane	107-06-2	< 7	7	1	1.13
11995	1,1-Dichloroethene	75-35-4	< 7	7	1	1.13
11995	cis-1,2-Dichloroethene	156-59-2	< 7	7	1	1.13
11995	trans-1,2-Dichloroethene	156-60-5	< 7	7	1	1.13
11995	1,2-Dichloropropane	78-87-5	< 7	7	1	1.13
11995	cis-1,3-Dichloropropene	10061-01-5	< 7	7	1	1.13
11995	trans-1,3-Dichloropropene	10061-02-6	< 7	7	1	1.13
11995	Ethylbenzene	100-41-4	< 7	7	1	1.13
11995	Freon 113	76-13-1	< 13	13	3	1.13
11995	2-Hexanone	591-78-6	< 13	13	4	1.13
11995	Isopropylbenzene	98-82-8	< 7	7	1	1.13
11995	Methyl Acetate	79-20-9	< 7	7	3	1.13
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 7	7	0.7	1.13
11995	4-Methyl-2-pentanone	108-10-1	< 13	13	4	1.13
11995	Methylcyclohexane	108-87-2	< 7	7	1	1.13
11995	Methylene Chloride	75-09-2	< 7	7	3	1.13
11995	Styrene	100-42-5	< 7	7	1	1.13
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 7	7	1	1.13
11995	Tetrachloroethene	127-18-4	< 7	7	1	1.13
11995	Toluene	108-88-3	< 7	7	1	1.13
11995	1,2,4-Trichlorobenzene	120-82-1	< 7	7	1	1.13
11995	1,1,1-Trichloroethane	71-55-6	< 7	7	1	1.13
11995	1,1,2-Trichloroethane	79-00-5	< 7	7	1	1.13
11995	Trichloroethene	79-01-6	< 7	7	1	1.13
11995	Trichlorofluoromethane	75-69-4	< 7	7	3	1.13
11995	Vinyl Chloride	75-01-4	< 7	7	1	1.13
11995	Xylene (Total)	1330-20-7	< 7	7	1	1.13
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	210	99	19	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-14-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260973
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

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Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	120	99	19	5
10726	Acetophenone	98-86-2	< 190	190	97	5
10726	Anthracene	120-12-7	670	99	19	5
10726	Atrazine	1912-24-9	< 970	970	190	5
10726	Benzaldehyde	100-52-7	< 970	970	390	5
10726	Benzo(a)anthracene	56-55-3	2,000	99	19	5
10726	Benzo(a)pyrene	50-32-8	2,200	99	19	5
10726	Benzo(b)fluoranthene	205-99-2	3,100	99	19	5
10726	Benzo(g,h,i)perylene	191-24-2	1,800	99	19	5
10726	Benzo(k)fluoranthene	207-08-9	1,100	99	19	5
10726	1,1'-Biphenyl	92-52-4	< 190	190	97	5
10726	4-Bromophenyl-phenylether	101-55-3	< 190	190	97	5
10726	Butylbenzylphthalate	85-68-7	< 970	970	390	5
10726	Di-n-butylphthalate	84-74-2	< 970	970	390	5
10726	Caprolactam	105-60-2	< 970	970	190	5
10726	Carbazole	86-74-8	270	190	97	5
10726	4-Chloro-3-methylphenol	59-50-7	< 190	190	97	5
10726	4-Chloroaniline	106-47-8	< 390	390	190	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 190	190	97	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 190	190	97	5
10726	2-Chloronaphthalene	91-58-7	< 190	190	39	5
10726	2-Chlorophenol	95-57-8	< 190	190	97	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 190	190	97	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 190	190	97	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,900	99	19	5
10726	Dibenz(a,h)anthracene	53-70-3	410	99	19	5
10726	Dibenzofuran	132-64-9	< 190	190	97	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,900	1,900	580	5
10726	2,4-Dichlorophenol	120-83-2	< 190	190	97	5
10726	Diethylphthalate	84-66-2	< 970	970	390	5
10726	2,4-Dimethylphenol	105-67-9	< 190	190	97	5
10726	Dimethylphthalate	131-11-3	2,400	970	390	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,900	2,900	970	5
10726	2,4-Dinitrophenol	51-28-5	< 5,800	5,800	1,700	5
10726	2,4-Dinitrotoluene	121-14-2	< 970	970	390	5
10726	2,6-Dinitrotoluene	606-20-2	< 190	190	97	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	5,000	990	390	5
10726	Fluoranthene	206-44-0	3,300	99	19	5
10726	Fluorene	86-73-7	200	99	19	5
10726	Hexachlorobenzene	118-74-1	< 99	99	19	5
10726	Hexachlorobutadiene	87-68-3	< 190	190	97	5
10726	Hexachlorocyclopentadiene	77-47-4	< 2,900	2,900	970	5
10726	Hexachloroethane	67-72-1	< 970	970	190	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	99	19	5
10726	Isophorone	78-59-1	< 190	190	97	5
10726	2-Methylnaphthalene	91-57-6	110	99	19	5
10726	2-Methylphenol	95-48-7	< 190	190	97	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-14-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260973
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1402

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 190	190	97	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	110	99	19	5
10726	2-Nitroaniline	88-74-4	< 190	190	97	5
10726	3-Nitroaniline	99-09-2	< 970	970	390	5
10726	4-Nitroaniline	100-01-6	< 970	970	390	5
10726	Nitrobenzene	98-95-3	< 190	190	97	5
10726	2-Nitrophenol	88-75-5	< 190	190	97	5
10726	4-Nitrophenol	100-02-7	< 2,900	2,900	970	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 190	190	97	5
10726	N-Nitrosodiphenylamine	86-30-6	< 190	190	97	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 970	970	390	5
10726	Pentachlorophenol	87-86-5	< 990	990	190	5
10726	Phenanthrene	85-01-8	2,100	99	19	5
10726	Phenol	108-95-2	< 190	190	97	5
10726	Pyrene	129-00-0	3,200	99	19	5
10726	2,4,5-Trichlorophenol	95-95-4	< 190	190	97	5
10726	2,4,6-Trichlorophenol	88-06-2	< 190	190	97	5
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	410	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	530	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	920	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	380	100
10885	PCB-1248	12672-29-6	14,000	1,900	380	100
10885	PCB-1254	11097-69-1	8,000	1,900	380	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	560	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,600	165	31.6	5
06946	Barium	7440-39-3	970	4.12	0.495	5
01650	Calcium	7440-70-2	11,400	33.0	2.75	1
06952	Cobalt	7440-48-4	25.3	4.12	0.334	5
06953	Copper	7440-50-8	3,780	8.25	1.32	5
01654	Iron	7439-89-6	238,000	660	54.9	20
06955	Lead	7439-92-1	847	12.4	1.69	5
01657	Magnesium	7439-95-4	2,100	16.5	1.38	1
06958	Manganese	7439-96-5	1,990	4.12	0.495	5
06961	Nickel	7440-02-0	247	1.65	0.190	1
01662	Potassium	7440-09-7	1,540	82.5	13.9	1
01667	Sodium	7440-23-5	914	165	13.8	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-14-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260973
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

S1402

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06970	Titanium	7440-32-6	472	8.25	1.53	5
06971	Vanadium	7440-62-2	43.8	4.12	0.948	5
06972	Zinc	7440-66-6	2,480	16.5	3.17	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	44.2	0.330	0.0544	2
06125	Arsenic	7440-38-2	23.6	0.660	0.124	2
06127	Beryllium	7440-41-7	0.309	0.165	0.0117	2
06128	Cadmium	7440-43-9	5.92	0.165	0.0379	2
06131	Chromium	7440-47-3	510	3.30	0.412	10
06141	Selenium	7782-49-2	< 0.660	0.660	0.0825	2
06142	Silver	7440-22-4	1.13	0.165	0.0165	2
06145	Thallium	7440-28-0	< 0.825	0.825	0.124	10
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	2.46	2.27	0.113	10
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.0	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 13:57	Jennifer K Howe	1.13
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 17:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 17:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 17:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016 05:51	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016 12:10	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/09/2016 02:54	Jessica L Miller	100

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-14-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260973
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:30 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1402

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016 23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016 00:00	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016 09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016 08:38	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016 16:32	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/09/2016 02:15	Matthew Machtinger	20
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016 08:38	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016 08:38	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016 08:38	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016 08:38	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016 09:54	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016 06:19	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016 06:19	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016 06:19	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016 13:29	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 13:31	Deborah A Krady	10
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:19	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016 13:29	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/09/2016 13:31	Deborah A Krady	10
00159	Mercury	SW-846 7471B	1	160630638001	03/04/2016 13:55	Damary Valentin	10
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638001	03/04/2016 10:11	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016 08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-16-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260974
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1602

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	33	19	7	0.81
11995	Benzene	71-43-2	< 5	5	0.5	0.81
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.81
11995	Bromoform	75-25-2	< 5	5	0.9	0.81
11995	Bromomethane	74-83-9	< 5	5	2	0.81
11995	2-Butanone	78-93-3	< 9	9	4	0.81
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.81
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.81
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.81
11995	Chloroethane	75-00-3	< 5	5	2	0.81
11995	Chloroform	67-66-3	< 5	5	0.9	0.81
11995	Chloromethane	74-87-3	< 5	5	2	0.81
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.81
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.81
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.81
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.81
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.81
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.81
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.81
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.81
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.81
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.81
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.81
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.81
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.81
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.81
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.81
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.81
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.81
11995	Freon 113	76-13-1	< 9	9	2	0.81
11995	2-Hexanone	591-78-6	< 9	9	3	0.81
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.81
11995	Methyl Acetate	79-20-9	< 5	5	2	0.81
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.81
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.81
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.81
11995	Methylene Chloride	75-09-2	< 5	5	2	0.81
11995	Styrene	100-42-5	< 5	5	0.9	0.81
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.81
11995	Tetrachloroethene	127-18-4	< 5	5	0.9	0.81
11995	Toluene	108-88-3	< 5	5	0.9	0.81
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.81
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.81
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.81
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.81
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.81
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.81
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.81

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: SS-16-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260974
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1602

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	acceptance limits, indicating a matrix effect. The data is reported from the initial trial.					
GC/MS Semivolatiles		**SW-846 8270D**	**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 99	99	19	5
10726	Acenaphthylene	208-96-8	< 99	99	19	5
10726	Acetophenone	98-86-2	< 190	190	97	5
10726	Anthracene	120-12-7	160	99	19	5
10726	Atrazine	1912-24-9	< 970	970	190	5
10726	Benzaldehyde	100-52-7	< 970	970	390	5
10726	Benzo(a)anthracene	56-55-3	310	99	19	5
10726	Benzo(a)pyrene	50-32-8	480	99	19	5
10726	Benzo(b)fluoranthene	205-99-2	660	99	19	5
10726	Benzo(g,h,i)perylene	191-24-2	510	99	19	5
10726	Benzo(k)fluoranthene	207-08-9	320	99	19	5
10726	1,1'-Biphenyl	92-52-4	< 190	190	97	5
10726	4-Bromophenyl-phenylether	101-55-3	< 190	190	97	5
10726	Butylbenzylphthalate	85-68-7	< 970	970	390	5
10726	Di-n-butylphthalate	84-74-2	< 970	970	390	5
10726	Caprolactam	105-60-2	< 970	970	190	5
10726	Carbazole	86-74-8	< 190	190	97	5
10726	4-Chloro-3-methylphenol	59-50-7	< 190	190	97	5
10726	4-Chloroaniline	106-47-8	< 390	390	190	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 190	190	97	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 190	190	97	5
10726	2-Chloronaphthalene	91-58-7	< 190	190	39	5
10726	2-Chlorophenol	95-57-8	< 190	190	97	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 190	190	97	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 190	190	97	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	340	99	19	5
10726	Dibenz(a,h)anthracene	53-70-3	120	99	19	5
10726	Dibenzofuran	132-64-9	< 190	190	97	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,900	1,900	580	5
10726	2,4-Dichlorophenol	120-83-2	< 190	190	97	5
10726	Diethylphthalate	84-66-2	< 970	970	390	5
10726	2,4-Dimethylphenol	105-67-9	< 190	190	97	5
10726	Dimethylphthalate	131-11-3	< 970	970	390	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,900	2,900	970	5
10726	2,4-Dinitrophenol	51-28-5	< 5,800	5,800	1,700	5
10726	2,4-Dinitrotoluene	121-14-2	< 970	970	390	5
10726	2,6-Dinitrotoluene	606-20-2	< 190	190	97	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 990	990	390	5
10726	Fluoranthene	206-44-0	570	99	19	5
10726	Fluorene	86-73-7	< 99	99	19	5
10726	Hexachlorobenzene	118-74-1	< 99	99	19	5
10726	Hexachlorobutadiene	87-68-3	< 190	190	97	5
10726	Hexachlorocyclopentadiene	77-47-4	< 2,900	2,900	970	5
10726	Hexachloroethane	67-72-1	< 970	970	190	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	450	99	19	5

*=This limit was used in the evaluation of the final result

Sample Description: SS-16-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260974
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1602

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 190	190	97	5
10726	2-Methylnaphthalene	91-57-6	100	99	19	5
10726	2-Methylphenol	95-48-7	< 190	190	97	5
10726	4-Methylphenol	106-44-5	< 190	190	97	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	110	99	19	5
10726	2-Nitroaniline	88-74-4	< 190	190	97	5
10726	3-Nitroaniline	99-09-2	< 970	970	390	5
10726	4-Nitroaniline	100-01-6	< 970	970	390	5
10726	Nitrobenzene	98-95-3	< 190	190	97	5
10726	2-Nitrophenol	88-75-5	< 190	190	97	5
10726	4-Nitrophenol	100-02-7	< 2,900	2,900	970	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 190	190	97	5
10726	N-Nitrosodiphenylamine	86-30-6	< 190	190	97	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 970	970	390	5
10726	Pentachlorophenol	87-86-5	< 990	990	190	5
10726	Phenanthrene	85-01-8	420	99	19	5
10726	Phenol	108-95-2	< 190	190	97	5
10726	Pyrene	129-00-0	590	99	19	5
10726	2,4,5-Trichlorophenol	95-95-4	< 190	190	97	5
10726	2,4,6-Trichlorophenol	88-06-2	< 190	190	97	5
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 400	400	84	20
10885	PCB-1221	11104-28-2	< 400	400	110	20
10885	PCB-1232	11141-16-5	< 400	400	190	20
10885	PCB-1242	53469-21-9	< 400	400	77	20
10885	PCB-1248	12672-29-6	< 400	400	77	20
10885	PCB-1254	11097-69-1	2,900	400	77	20
10885	PCB-1260	11096-82-5	1,400	400	110	20
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	14,200	36.1	6.91	1
06946	Barium	7440-39-3	232	0.902	0.108	1
01650	Calcium	7440-70-2	43,600	36.1	3.01	1
06952	Cobalt	7440-48-4	10.1	4.51	0.365	5
06953	Copper	7440-50-8	986	9.02	1.44	5
01654	Iron	7439-89-6	100,000	180	15.0	5
06955	Lead	7439-92-1	568	2.71	0.370	1
01657	Magnesium	7439-95-4	7,800	18.0	1.51	1
06958	Manganese	7439-96-5	944	0.902	0.108	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-16-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260974
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:45 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1602

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06961	Nickel	7440-02-0	55.5	9.02	1.04	5
01662	Potassium	7440-09-7	2,940	90.2	15.2	1
01667	Sodium	7440-23-5	238	180	15.1	1
06970	Titanium	7440-32-6	853	9.02	1.67	5
06971	Vanadium	7440-62-2	29.3	4.51	1.04	5
06972	Zinc	7440-66-6	1,940	18.0	3.47	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	4.48	0.361	0.0596	2
06125	Arsenic	7440-38-2	15.4	0.722	0.135	2
06127	Beryllium	7440-41-7	1.37	0.180	0.0128	2
06128	Cadmium	7440-43-9	4.31	0.180	0.0415	2
06131	Chromium	7440-47-3	88.4	0.722	0.0902	2
06141	Selenium	7782-49-2	< 0.722	0.722	0.0902	2
06142	Silver	7440-22-4	0.379	0.180	0.0180	2
06145	Thallium	7440-28-0	< 0.180	0.180	0.0271	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.409	0.223	0.0112	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016 12:44	Angela D Sneeringer	0.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 17:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 17:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 17:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016 21:27	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016 12:10	Benjamin J Rosenberger	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-16-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260974
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:45 by TK

Submitted: 02/26/2016 09:30
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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1602

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016	02:36	Kirby B Turner	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	01:13	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	09:57	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	16:35	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	09:57	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:57	Katlin N Cataldi	5
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	08:42	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	09:57	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	09:57	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	09:57	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:22	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:22	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:22	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	13:36	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:36	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:22	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016	13:36	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016	06:22	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638001	03/04/2016	13:42	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016	07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638001	03/04/2016	10:11	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016	08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-17-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260975
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:50 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1702

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 17	17	6	0.76
11995	Benzene	71-43-2	< 4	4	0.4	0.76
11995	Bromodichloromethane	75-27-4	< 4	4	0.9	0.76
11995	Bromoform	75-25-2	< 4	4	0.9	0.76
11995	Bromomethane	74-83-9	< 4	4	2	0.76
11995	2-Butanone	78-93-3	10	9	3	0.76
11995	Carbon Disulfide	75-15-0	< 4	4	0.9	0.76
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.9	0.76
11995	Chlorobenzene	108-90-7	< 4	4	0.9	0.76
11995	Chloroethane	75-00-3	< 4	4	2	0.76
11995	Chloroform	67-66-3	< 4	4	0.9	0.76
11995	Chloromethane	74-87-3	< 4	4	2	0.76
11995	Cyclohexane	110-82-7	< 4	4	0.9	0.76
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.76
11995	Dibromochloromethane	124-48-1	< 4	4	0.9	0.76
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.9	0.76
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.9	0.76
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.9	0.76
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.9	0.76
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.76
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.9	0.76
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.9	0.76
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.9	0.76
11995	cis-1,2-Dichloroethene	156-59-2	< 4	4	0.9	0.76
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.9	0.76
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.9	0.76
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.9	0.76
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.9	0.76
11995	Ethylbenzene	100-41-4	< 4	4	0.9	0.76
11995	Freon 113	76-13-1	< 9	9	2	0.76
11995	2-Hexanone	591-78-6	< 9	9	3	0.76
11995	Isopropylbenzene	98-82-8	< 4	4	0.9	0.76
11995	Methyl Acetate	79-20-9	< 4	4	2	0.76
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 4	4	0.4	0.76
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.76
11995	Methylcyclohexane	108-87-2	< 4	4	0.9	0.76
11995	Methylene Chloride	75-09-2	< 4	4	2	0.76
11995	Styrene	100-42-5	< 4	4	0.9	0.76
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.9	0.76
11995	Tetrachloroethene	127-18-4	< 4	4	0.9	0.76
11995	Toluene	108-88-3	< 4	4	0.9	0.76
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.9	0.76
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.9	0.76
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.9	0.76
11995	Trichloroethene	79-01-6	< 4	4	0.9	0.76
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.76
11995	Vinyl Chloride	75-01-4	< 4	4	0.9	0.76
11995	Xylene (Total)	1330-20-7	< 4	4	0.9	0.76
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-17-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260975
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:50 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1702

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 37	37	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	37	1
10726	Benzaldehyde	100-52-7	< 190	190	75	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	75	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	75	1
10726	Caprolactam	105-60-2	< 190	190	37	1
10726	Carbazole	86-74-8	< 37	37	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	19	1
10726	4-Chloroaniline	106-47-8	< 75	75	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 37	37	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	19	1
10726	Diethylphthalate	84-66-2	< 190	190	75	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 560	560	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	75	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 560	560	190	1
10726	Hexachloroethane	67-72-1	< 190	190	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 37	37	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	19	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-17-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260975
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:50 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1702

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 37	37	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	75	1
10726	4-Nitroaniline	100-01-6	< 190	190	75	1
10726	Nitrobenzene	98-95-3	< 37	37	19	1
10726	2-Nitrophenol	88-75-5	< 37	37	19	1
10726	4-Nitrophenol	100-02-7	< 560	560	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	75	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 37	37	19	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	19	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1
10885	PCB-1221	11104-28-2	< 19	19	5.2	1
10885	PCB-1232	11141-16-5	< 19	19	9.1	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	< 19	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.6	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	7,250	42.5	8.14	1
06946	Barium	7440-39-3	60.7	1.06	0.127	1
01650	Calcium	7440-70-2	329	42.5	3.54	1
06952	Cobalt	7440-48-4	3.57	1.06	0.0860	1
06953	Copper	7440-50-8	10.9	2.12	0.340	1
01654	Iron	7439-89-6	4,870	42.5	3.54	1
06955	Lead	7439-92-1	10.2	3.19	0.435	1
01657	Magnesium	7439-95-4	389	21.2	1.77	1
06958	Manganese	7439-96-5	342	1.06	0.127	1
06961	Nickel	7440-02-0	3.08	2.12	0.244	1
01662	Potassium	7440-09-7	476	106	17.8	1
01667	Sodium	7440-23-5	< 212	212	17.7	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-17-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260975
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:50 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1702

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06970	Titanium	7440-32-6	229	2.12	0.393	1
06971	Vanadium	7440-62-2	10.8	1.06	0.244	1
06972	Zinc	7440-66-6	20.4	4.25	0.818	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.425	0.425	0.0701	2
06125	Arsenic	7440-38-2	2.38	0.850	0.159	2
06127	Beryllium	7440-41-7	0.473	0.212	0.0151	2
06128	Cadmium	7440-43-9	< 0.212	0.212	0.0489	2
06131	Chromium	7440-47-3	6.49	0.850	0.106	2
06141	Selenium	7782-49-2	< 0.850	0.850	0.106	2
06142	Silver	7440-22-4	< 0.212	0.212	0.0212	2
06145	Thallium	7440-28-0	< 0.212	0.212	0.0319	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.215	0.215	0.0107	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016 13:06	Angela D Sneeringer	0.76
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 17:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 17:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 17:50	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016 06:37	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016 12:10	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016 02:47	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-17-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260975
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 17:50 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1702

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	01:31	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	15:26	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	08:52	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:32	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:32	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:32	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016	06:32	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:37	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:32	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	06:32	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016	06:32	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638001	03/04/2016	13:44	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016	07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638001	03/04/2016	10:11	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016	08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-18-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260976
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1802

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 23	23	8	0.91
11995	Benzene	71-43-2	< 6	6	0.6	0.91
11995	Bromodichloromethane	75-27-4	< 6	6	1	0.91
11995	Bromoform	75-25-2	< 6	6	1	0.91
11995	Bromomethane	74-83-9	< 6	6	2	0.91
11995	2-Butanone	78-93-3	< 12	12	5	0.91
11995	Carbon Disulfide	75-15-0	< 6	6	1	0.91
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	0.91
11995	Chlorobenzene	108-90-7	< 6	6	1	0.91
11995	Chloroethane	75-00-3	< 6	6	2	0.91
11995	Chloroform	67-66-3	< 6	6	1	0.91
11995	Chloromethane	74-87-3	< 6	6	2	0.91
11995	Cyclohexane	110-82-7	< 6	6	1	0.91
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	0.91
11995	Dibromochloromethane	124-48-1	< 6	6	1	0.91
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	0.91
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	0.91
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	0.91
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	0.91
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	0.91
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	0.91
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	0.91
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	0.91
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	0.91
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	0.91
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	0.91
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	0.91
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	0.91
11995	Ethylbenzene	100-41-4	< 6	6	1	0.91
11995	Freon 113	76-13-1	< 12	12	2	0.91
11995	2-Hexanone	591-78-6	< 12	12	4	0.91
11995	Isopropylbenzene	98-82-8	< 6	6	1	0.91
11995	Methyl Acetate	79-20-9	< 6	6	2	0.91
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	0.91
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	4	0.91
11995	Methylcyclohexane	108-87-2	< 6	6	1	0.91
11995	Methylene Chloride	75-09-2	< 6	6	2	0.91
11995	Styrene	100-42-5	< 6	6	1	0.91
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	0.91
11995	Tetrachloroethene	127-18-4	< 6	6	1	0.91
11995	Toluene	108-88-3	< 6	6	1	0.91
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	0.91
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	0.91
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	0.91
11995	Trichloroethene	79-01-6	< 6	6	1	0.91
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	0.91
11995	Vinyl Chloride	75-01-4	< 6	6	1	0.91
11995	Xylene (Total)	1330-20-7	< 6	6	1	0.91
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 21	21	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-18-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260976
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1802

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 21	21	4	1
10726	Acetophenone	98-86-2	< 42	42	21	1
10726	Anthracene	120-12-7	26	21	4	1
10726	Atrazine	1912-24-9	< 210	210	42	1
10726	Benzaldehyde	100-52-7	< 210	210	84	1
10726	Benzo(a)anthracene	56-55-3	41	21	4	1
10726	Benzo(a)pyrene	50-32-8	61	21	4	1
10726	Benzo(b)fluoranthene	205-99-2	100	21	4	1
10726	Benzo(g,h,i)perylene	191-24-2	76	21	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 21	21	4	1
10726	1,1'-Biphenyl	92-52-4	< 42	42	21	1
10726	4-Bromophenyl-phenylether	101-55-3	< 42	42	21	1
10726	Butylbenzylphthalate	85-68-7	< 210	210	84	1
10726	Di-n-butylphthalate	84-74-2	< 210	210	84	1
10726	Caprolactam	105-60-2	< 210	210	42	1
10726	Carbazole	86-74-8	< 42	42	21	1
10726	4-Chloro-3-methylphenol	59-50-7	< 42	42	21	1
10726	4-Chloroaniline	106-47-8	< 84	84	42	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 42	42	21	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 42	42	21	1
10726	2-Chloronaphthalene	91-58-7	< 42	42	8	1
10726	2-Chlorophenol	95-57-8	< 42	42	21	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 42	42	21	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 42	42	21	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	61	21	4	1
10726	Dibenz(a,h)anthracene	53-70-3	26	21	4	1
10726	Dibenzofuran	132-64-9	< 42	42	21	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 420	420	130	1
10726	2,4-Dichlorophenol	120-83-2	< 42	42	21	1
10726	Diethylphthalate	84-66-2	< 210	210	84	1
10726	2,4-Dimethylphenol	105-67-9	< 42	42	21	1
10726	Dimethylphthalate	131-11-3	< 210	210	84	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 630	630	210	1
10726	2,4-Dinitrophenol	51-28-5	< 1,300	1,300	380	1
10726	2,4-Dinitrotoluene	121-14-2	< 210	210	84	1
10726	2,6-Dinitrotoluene	606-20-2	< 42	42	21	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	58,000	4,300	1,700	20
10726	Fluoranthene	206-44-0	64	21	4	1
10726	Fluorene	86-73-7	< 21	21	4	1
10726	Hexachlorobenzene	118-74-1	< 21	21	4	1
10726	Hexachlorobutadiene	87-68-3	< 42	42	21	1
10726	Hexachlorocyclopentadiene	77-47-4	< 630	630	210	1
10726	Hexachloroethane	67-72-1	< 210	210	42	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	99	21	4	1
10726	Isophorone	78-59-1	< 42	42	21	1
10726	2-Methylnaphthalene	91-57-6	46	21	4	1
10726	2-Methylphenol	95-48-7	< 42	42	21	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-18-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260976
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1802

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 42	42	21	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	31	21	4	1
10726	2-Nitroaniline	88-74-4	< 42	42	21	1
10726	3-Nitroaniline	99-09-2	< 210	210	84	1
10726	4-Nitroaniline	100-01-6	< 210	210	84	1
10726	Nitrobenzene	98-95-3	< 42	42	21	1
10726	2-Nitrophenol	88-75-5	< 42	42	21	1
10726	4-Nitrophenol	100-02-7	< 630	630	210	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 42	42	21	1
10726	N-Nitrosodiphenylamine	86-30-6	< 42	42	21	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 210	210	84	1
10726	Pentachlorophenol	87-86-5	< 210	210	42	1
10726	Phenanthrene	85-01-8	63	21	4	1
10726	Phenol	108-95-2	< 42	42	21	1
10726	Pyrene	129-00-0	74	21	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 42	42	21	1
10726	2,4,6-Trichlorophenol	88-06-2	< 42	42	21	1

The GC/MS semivolatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
Perylene-d12	-53%

Internal Standard - Re-analysis	% Recovery
Perylene-d12	- 52%

Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 110	110	23	5
10885	PCB-1221	11104-28-2	< 110	110	29	5
10885	PCB-1232	11141-16-5	< 110	110	51	5
10885	PCB-1242	53469-21-9	< 110	110	21	5
10885	PCB-1248	12672-29-6	< 110	110	21	5
10885	PCB-1254	11097-69-1	520	110	21	5
10885	PCB-1260	11096-82-5	220	110	31	5
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 13	13	6.4	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	23,400	48.3	9.24	1
06946	Barium	7440-39-3	478	1.21	0.145	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-18-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260976
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1802

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01650	Calcium	7440-70-2	151,000	241	20.1	5
06952	Cobalt	7440-48-4	< 1.21	1.21	0.0977	1
06953	Copper	7440-50-8	32.0	2.41	0.386	1
01654	Iron	7439-89-6	6,580	48.3	4.02	1
06955	Lead	7439-92-1	84.7	3.62	0.495	1
01657	Magnesium	7439-95-4	10,200	24.1	2.01	1
06958	Manganese	7439-96-5	1,600	1.21	0.145	1
06961	Nickel	7440-02-0	4.83	2.41	0.277	1
01662	Potassium	7440-09-7	4,760	121	20.3	1
01667	Sodium	7440-23-5	616	241	20.1	1
06970	Titanium	7440-32-6	493	2.41	0.446	1
06971	Vanadium	7440-62-2	21.0	1.21	0.277	1
06972	Zinc	7440-66-6	108	4.83	0.929	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.862	0.483	0.0796	2
06125	Arsenic	7440-38-2	7.12	0.965	0.181	2
06127	Beryllium	7440-41-7	4.38	0.241	0.0171	2
06128	Cadmium	7440-43-9	0.834	0.241	0.0555	2
06131	Chromium	7440-47-3	8.98	0.965	0.121	2
06141	Selenium	7782-49-2	< 0.965	0.965	0.121	2
06142	Silver	7440-22-4	< 0.241	0.241	0.0241	2
06145	Thallium	7440-28-0	0.483	0.241	0.0362	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.279	0.238	0.0119	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	21.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016 13:29	Angela D Sneeringer	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 18:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-18-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260976
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:00 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1802

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	18:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	18:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016	07:01	Ankitaben A Patel	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016	22:36	Ankitaben A Patel	20
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016	12:10	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016	03:22	Kirby B Turner	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	01:49	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/09/2016	15:34	Suzanne M Will	5
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	15:30	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	08:56	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:35	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:35	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:35	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	13:39	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:39	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:35	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	06:35	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016	06:35	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638001	03/04/2016	13:46	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016	07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638001	03/04/2016	10:11	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016	08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-19-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260977
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:10 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1902

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 22	22	8	0.97
11995	Benzene	71-43-2	6	5	0.5	0.97
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.97
11995	Bromoform	75-25-2	< 5	5	1	0.97
11995	Bromomethane	74-83-9	< 5	5	2	0.97
11995	2-Butanone	78-93-3	< 11	11	4	0.97
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.97
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.97
11995	Chlorobenzene	108-90-7	< 5	5	1	0.97
11995	Chloroethane	75-00-3	< 5	5	2	0.97
11995	Chloroform	67-66-3	< 5	5	1	0.97
11995	Chloromethane	74-87-3	< 5	5	2	0.97
11995	Cyclohexane	110-82-7	< 5	5	1	0.97
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.97
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.97
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.97
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.97
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.97
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.97
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.97
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.97
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.97
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.97
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.97
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.97
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.97
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.97
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.97
11995	Ethylbenzene	100-41-4	< 5	5	1	0.97
11995	Freon 113	76-13-1	< 11	11	2	0.97
11995	2-Hexanone	591-78-6	< 11	11	3	0.97
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.97
11995	Methyl Acetate	79-20-9	< 5	5	2	0.97
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.97
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.97
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.97
11995	Methylene Chloride	75-09-2	< 5	5	2	0.97
11995	Styrene	100-42-5	< 5	5	1	0.97
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.97
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.97
11995	Toluene	108-88-3	< 5	5	1	0.97
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.97
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.97
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.97
11995	Trichloroethene	79-01-6	< 5	5	1	0.97
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.97
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.97
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.97

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: SS-19-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260977
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:10 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1902

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	acceptance limits, indicating a matrix effect. The data is reported from the initial trial.					
GC/MS Semivolatiles		**SW-846 8270D**	**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	20	19	4	1
10726	Acetophenone	98-86-2	< 37	37	19	1
10726	Anthracene	120-12-7	46	19	4	1
10726	Atrazine	1912-24-9	< 190	190	37	1
10726	Benzaldehyde	100-52-7	< 190	190	74	1
10726	Benzo(a)anthracene	56-55-3	81	19	4	1
10726	Benzo(a)pyrene	50-32-8	110	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	230	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	140	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	61	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	74	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	74	1
10726	Caprolactam	105-60-2	< 190	190	37	1
10726	Carbazole	86-74-8	< 37	37	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	19	1
10726	4-Chloroaniline	106-47-8	< 74	74	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	90	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 37	37	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	19	1
10726	Diethylphthalate	84-66-2	< 190	190	74	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	74	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 560	560	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	330	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	74	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	230	190	74	1
10726	Fluoranthene	206-44-0	110	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 560	560	190	1
10726	Hexachloroethane	67-72-1	< 190	190	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	160	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-19-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260977
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:10 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1902

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 37	37	19	1
10726	2-Methylnaphthalene	91-57-6	24	19	4	1
10726	2-Methylphenol	95-48-7	< 37	37	19	1
10726	4-Methylphenol	106-44-5	< 37	37	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	20	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	74	1
10726	4-Nitroaniline	100-01-6	< 190	190	74	1
10726	Nitrobenzene	98-95-3	< 37	37	19	1
10726	2-Nitrophenol	88-75-5	< 37	37	19	1
10726	4-Nitrophenol	100-02-7	< 560	560	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	74	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	68	19	4	1
10726	Phenol	108-95-2	< 37	37	19	1
10726	Pyrene	129-00-0	130	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	19	1

The GC/MS semivolatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
Pyrene-d10	-50%
Perylene-d12	-58%

Internal Standard - Re-analysis	% Recovery
Perylene-d12	-57%

Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 94	94	20	5
10885	PCB-1221	11104-28-2	< 94	94	26	5
10885	PCB-1232	11141-16-5	< 94	94	44	5
10885	PCB-1242	53469-21-9	< 94	94	18	5
10885	PCB-1248	12672-29-6	480	94	18	5
10885	PCB-1254	11097-69-1	850	94	18	5
10885	PCB-1260	11096-82-5	< 94	94	27	5
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-19-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260977
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:10 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1902

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	7,650	43.1	8.26	1
06946	Barium	7440-39-3	79.9	1.08	0.129	1
01650	Calcium	7440-70-2	3,300	43.1	3.59	1
06952	Cobalt	7440-48-4	3.80	1.08	0.0873	1
06953	Copper	7440-50-8	98.4	2.16	0.345	1
01654	Iron	7439-89-6	18,000	43.1	3.59	1
06955	Lead	7439-92-1	131	3.23	0.442	1
01657	Magnesium	7439-95-4	3,150	21.6	1.80	1
06958	Manganese	7439-96-5	286	1.08	0.129	1
06961	Nickel	7440-02-0	19.8	2.16	0.248	1
01662	Potassium	7440-09-7	2,980	108	18.1	1
01667	Sodium	7440-23-5	< 216	216	18.0	1
06970	Titanium	7440-32-6	759	2.16	0.399	1
06971	Vanadium	7440-62-2	18.2	1.08	0.248	1
06972	Zinc	7440-66-6	178	4.31	0.830	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.60	0.431	0.0711	2
06125	Arsenic	7440-38-2	2.36	0.862	0.162	2
06127	Beryllium	7440-41-7	< 0.216	0.216	0.0153	2
06128	Cadmium	7440-43-9	0.699	0.216	0.0496	2
06131	Chromium	7440-47-3	23.1	0.862	0.108	2
06141	Selenium	7782-49-2	< 0.862	0.862	0.108	2
06142	Silver	7440-22-4	< 0.216	0.216	0.0216	2
06145	Thallium	7440-28-0	< 0.216	0.216	0.0323	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.210	0.210	0.0105	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016 13:51	Angela D Sneeringer	0.97

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-19-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260977
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:10 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S1902

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016	18:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016	18:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016	18:10	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016	07:24	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016	12:10	Benjamin J Rosenberger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/08/2016	03:45	Kirby B Turner	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016	23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	02:07	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	15:37	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	08:59	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:38	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:38	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:38	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	13:41	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:41	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:38	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	06:38	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016	06:38	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638001	03/04/2016	13:49	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016	07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638001	03/04/2016	10:11	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16062820010A	03/03/2016	08:35	William C Schwebel	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-20-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260978
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:20 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S2002

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	55	19	7	0.87
11995	Benzene	71-43-2	< 5	5	0.5	0.87
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.87
11995	Bromoform	75-25-2	< 5	5	0.9	0.87
11995	Bromomethane	74-83-9	< 5	5	2	0.87
11995	2-Butanone	78-93-3	< 9	9	4	0.87
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.87
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.87
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.87
11995	Chloroethane	75-00-3	< 5	5	2	0.87
11995	Chloroform	67-66-3	< 5	5	0.9	0.87
11995	Chloromethane	74-87-3	< 5	5	2	0.87
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.87
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.87
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.87
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.87
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.87
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.87
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.87
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.87
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.87
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.87
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.87
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.87
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.87
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.87
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.87
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.87
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.87
11995	Freon 113	76-13-1	< 9	9	2	0.87
11995	2-Hexanone	591-78-6	< 9	9	3	0.87
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.87
11995	Methyl Acetate	79-20-9	< 5	5	2	0.87
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.87
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.87
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.87
11995	Methylene Chloride	75-09-2	< 5	5	2	0.87
11995	Styrene	100-42-5	< 5	5	0.9	0.87
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.87
11995	Tetrachloroethene	127-18-4	< 5	5	0.9	0.87
11995	Toluene	108-88-3	< 5	5	0.9	0.87
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.87
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.87
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.87
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.87
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.87
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.87
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.87
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SS-20-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260978
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:20 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S2002

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	43	18	4	1
10726	Acetophenone	98-86-2	< 36	36	18	1
10726	Anthracene	120-12-7	78	18	4	1
10726	Atrazine	1912-24-9	< 180	180	36	1
10726	Benzaldehyde	100-52-7	< 180	180	72	1
10726	Benzo(a)anthracene	56-55-3	120	18	4	1
10726	Benzo(a)pyrene	50-32-8	240	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	580	18	4	1
10726	Benzo(g,h,i)perylene	191-24-2	260	18	4	1
10726	Benzo(k)fluoranthene	207-08-9	170	18	4	1
10726	1,1'-Biphenyl	92-52-4	< 36	36	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 36	36	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	72	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	72	1
10726	Caprolactam	105-60-2	< 180	180	36	1
10726	Carbazole	86-74-8	< 36	36	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 36	36	18	1
10726	4-Chloroaniline	106-47-8	< 72	72	36	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 36	36	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 36	36	18	1
10726	2-Chloronaphthalene	91-58-7	< 36	36	7	1
10726	2-Chlorophenol	95-57-8	< 36	36	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 36	36	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 36	36	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	230	18	4	1
10726	Dibenz(a,h)anthracene	53-70-3	56	18	4	1
10726	Dibenzofuran	132-64-9	< 36	36	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 360	360	110	1
10726	2,4-Dichlorophenol	120-83-2	< 36	36	18	1
10726	Diethylphthalate	84-66-2	< 180	180	72	1
10726	2,4-Dimethylphenol	105-67-9	< 36	36	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	72	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 540	540	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	320	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	72	1
10726	2,6-Dinitrotoluene	606-20-2	< 36	36	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	200	180	72	1
10726	Fluoranthene	206-44-0	170	18	4	1
10726	Fluorene	86-73-7	< 18	18	4	1
10726	Hexachlorobenzene	118-74-1	< 18	18	4	1
10726	Hexachlorobutadiene	87-68-3	< 36	36	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 540	540	180	1
10726	Hexachloroethane	67-72-1	< 180	180	36	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	230	18	4	1
10726	Isophorone	78-59-1	< 36	36	18	1
10726	2-Methylnaphthalene	91-57-6	320	18	4	1
10726	2-Methylphenol	95-48-7	< 36	36	18	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-20-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260978
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:20 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S2002

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 36	36	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	300	18	4	1
10726	2-Nitroaniline	88-74-4	< 36	36	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	72	1
10726	4-Nitroaniline	100-01-6	< 180	180	72	1
10726	Nitrobenzene	98-95-3	< 36	36	18	1
10726	2-Nitrophenol	88-75-5	< 36	36	18	1
10726	4-Nitrophenol	100-02-7	< 540	540	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 36	36	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 36	36	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	72	1
10726	Pentachlorophenol	87-86-5	< 180	180	36	1
10726	Phenanthrene	85-01-8	100	18	4	1
10726	Phenol	108-95-2	< 36	36	18	1
10726	Pyrene	129-00-0	280	18	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 36	36	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 36	36	18	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 930	930	200	50
10885	PCB-1221	11104-28-2	< 930	930	250	50
10885	PCB-1232	11141-16-5	< 930	930	440	50
10885	PCB-1242	53469-21-9	< 930	930	180	50
10885	PCB-1248	12672-29-6	< 930	930	180	50
10885	PCB-1254	11097-69-1	< 930	930	180	50
10885	PCB-1260	11096-82-5	< 930	930	270	50
	Reporting limits were raised due to interference from the sample matrix.					
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.5	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	8,820	34.1	6.53	1
06946	Barium	7440-39-3	103	0.853	0.102	1
01650	Calcium	7440-70-2	2,850	34.1	2.84	1
06952	Cobalt	7440-48-4	4.38	0.853	0.0691	1
06953	Copper	7440-50-8	106	1.71	0.273	1
01654	Iron	7439-89-6	27,100	68.2	5.68	2
06955	Lead	7439-92-1	114	2.56	0.350	1
01657	Magnesium	7439-95-4	1,150	17.1	1.42	1
06958	Manganese	7439-96-5	517	0.853	0.102	1
06961	Nickel	7440-02-0	20.4	1.71	0.196	1
01662	Potassium	7440-09-7	876	85.3	14.3	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-20-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260978
LL Group # 1635319
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/25/2016 18:20 by TK

Submitted: 02/26/2016 09:30
Reported: 03/18/2016 10:30

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

S2002

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01667	Sodium	7440-23-5	< 171	171	14.2	1
06970	Titanium	7440-32-6	344	1.71	0.316	1
06971	Vanadium	7440-62-2	16.9	0.853	0.196	1
06972	Zinc	7440-66-6	140	3.41	0.657	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.41	0.341	0.0563	2
06125	Arsenic	7440-38-2	5.28	0.682	0.128	2
06127	Beryllium	7440-41-7	0.458	0.171	0.0121	2
06128	Cadmium	7440-43-9	0.808	0.171	0.0392	2
06131	Chromium	7440-47-3	29.8	0.682	0.0853	2
06141	Selenium	7782-49-2	< 0.682	0.682	0.0853	2
06142	Silver	7440-22-4	< 0.171	0.171	0.0171	2
06145	Thallium	7440-28-0	< 0.853	0.853	0.128	10
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.209	0.209	0.0105	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	8.4	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016 14:14	Angela D Sneeringer	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201605740229	02/25/2016 18:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201605740229	02/25/2016 18:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201605740229	02/25/2016 18:20	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLF026	03/08/2016 18:21	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLF026	03/05/2016 12:10	Benjamin J Rosenberger	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SS-20-0-2-022516 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8260978
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Project Name: Former Cohn Property/Columbus, GA

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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
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S2002

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640019A	03/09/2016 03:40	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640019A	03/06/2016 23:30	Michelle A Newswanger	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016 02:25	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016 09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016 15:41	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/09/2016 02:39	Matthew Machtinger	2
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016 09:03	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016 06:41	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016 06:41	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016 06:41	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016 13:43	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 13:43	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:41	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016 06:41	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/09/2016 13:44	Deborah A Krady	10
00159	Mercury	SW-846 7471B	1	160630638001	03/04/2016 13:51	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638001	03/04/2016 10:11	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	2	16064820002A	03/04/2016 13:13	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: A160642AA	Sample number(s): 8260951-8260956,8260964-8260967,8260969-8260972		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: A160671AA	Sample number(s): 8260961		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Batch number: A160681AA	Sample number(s): 8260962,8260968,8260974-8260978		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: A160691AA	Sample number(s): 8260973		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: R160621AA	Sample number(s): 8260950,8260957-8260959,8260963		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
Batch number: 16064SLB026	Sample number(s): 8260952-8260953,8260956-8260959,8260961-8260966,8260968		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 16064SLF026	Sample number(s): 8260969-8260971,8260973-8260978		
Acenaphthene	< 17	17	3

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 16068SLD026	Sample number(s): 8260950-8260951,8260954-8260955		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 160620006A	Sample number(s): 8260950-8260952		
4-Amino-2,6-Dinitrotoluene	< 120	120	40
2-Amino-4,6-Dinitrotoluene	< 120	120	40
2,6-Diamino-4-nitrotoluene	< 300	300	100
2,4-Diamino-6-nitrotoluene	< 300	300	100
3,5-Dinitroaniline	< 120	120	40
1,3-Dinitrobenzene	< 120	120	40
2,4-Dinitrotoluene	< 120	120	40
2,6-Dinitrotoluene	< 120	120	40
HMX	< 300	300	100
Nitrobenzene	< 300	300	100
Nitroglycerin	< 2,400	2,400	800
2-Nitrotoluene	< 120	120	40
3-Nitrotoluene	< 120	120	40
4-Nitrotoluene	< 120	120	40
PETN	< 2,400	2,400	800
RDX	< 120	120	40
Tetryl	< 300	300	100
1,3,5-Trinitrobenzene	< 120	120	40
2,4,6-Trinitrotoluene	< 120	120	40
Batch number: 160620007A	Sample number(s): 8260953-8260954,8260964-8260966,8260968-8260969,8260971		
4-Amino-2,6-Dinitrotoluene	< 120	120	40
2-Amino-4,6-Dinitrotoluene	< 120	120	40
2,6-Diamino-4-nitrotoluene	< 300	300	100
2,4-Diamino-6-nitrotoluene	< 300	300	100
3,5-Dinitroaniline	< 120	120	40
1,3-Dinitrobenzene	< 120	120	40
2,4-Dinitrotoluene	< 120	120	40
2,6-Dinitrotoluene	< 120	120	40
HMX	< 300	300	100
Nitrobenzene	< 300	300	100

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Nitroglycerin	< 2,400	2,400	800
2-Nitrotoluene	< 120	120	40
3-Nitrotoluene	< 120	120	40
4-Nitrotoluene	< 120	120	40
PETN	< 2,400	2,400	800
RDX	< 120	120	40
Tetryl	< 300	300	100
1,3,5-Trinitrobenzene	< 120	120	40
2,4,6-Trinitrotoluene	< 120	120	40
Batch number: 160610026A	Sample number(s): 8260950-8260959		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
Batch number: 160640019A	Sample number(s): 8260961,8260963-8260966,8260968-8260971,8260973-8260978		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
Batch number: 160680020A	Sample number(s): 8260962		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	mg/kg	mg/kg	mg/kg
Batch number: 160630033A	Sample number(s): 8260950-8260959,8260961-8260965		
Ethylene glycol	< 10	10	5.0
Batch number: 160670008A	Sample number(s): 8260966,8260968-8260971,8260973-8260978		
Ethylene glycol	< 10	10	5.0
Batch number: 160610637002	Sample number(s): 8260950-8260966,8260968		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result	LOQ**	MDL
	mg/kg	mg/kg	mg/kg
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160610637002A	Sample number(s): 8260950-8260966,8260968		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160610637002B	Sample number(s): 8260950-8260966,8260968		
Selenium	< 0.800	0.800	0.100
Batch number: 160610638002	Sample number(s): 8260950-8260966,8260968		
Mercury	< 0.200	0.200	0.0100
Batch number: 160620637001	Sample number(s): 8260969-8260971		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160620637001A	Sample number(s): 8260969-8260971		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160620637001B	Sample number(s): 8260969-8260971		
Selenium	< 0.800	0.800	0.100
Batch number: 160620638001	Sample number(s): 8260969-8260971		
Mercury	< 0.200	0.200	0.0100
Batch number: 160630637002	Sample number(s): 8260973-8260978		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Result mg/kg	LOQ** mg/kg	MDL mg/kg
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160630637002A	Sample number(s): 8260973-8260978		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160630637002B	Sample number(s): 8260973-8260978		
Selenium	< 0.800	0.800	0.100
Batch number: 160630638001	Sample number(s): 8260973-8260978		
Mercury	< 0.200	0.200	0.0100

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A160642AA	Sample number(s): 8260951-8260956,8260964-8260967,8260969-8260972								
Acetone	150	140.55	150	134.94	94	90	46-139	4	30
Benzene	20	20.42	20	20.36	102	102	80-120	0	30
Bromodichloromethane	20	21.09	20	21.17	105	106	75-120	0	30
Bromoform	20	20.87	20	19.64	104	98	64-120	6	30
Bromomethane	20	18.9	20	18.75	94	94	16-200	1	30
2-Butanone	150	118.2	150	117.85	79	79	54-129	0	30
Carbon Disulfide	20	19.61	20	19.24	98	96	60-120	2	30
Carbon Tetrachloride	20	24.57	20	24.3	123	122	69-130	1	30
Chlorobenzene	20	21.31	20	21.22	107	106	80-120	0	30
Chloroethane	20	17.43	20	17.57	87	88	11-200	1	30
Chloroform	20	22.24	20	22.3	111	112	80-120	0	30
Chloromethane	20	14.89	20	15.58	74	78	56-120	4	30
Cyclohexane	20	16.1	20	16.3	81	81	58-120	1	30
1,2-Dibromo-3-chloropropane	20	17.94	20	16.29	90	81	54-120	10	30
Dibromochloromethane	20	21.23	20	20.62	106	103	77-120	3	30
1,2-Dibromoethane	20	20.48	20	19.97	102	100	80-120	3	30
1,2-Dichlorobenzene	20	21.22	20	21.12	106	106	80-120	0	30
1,3-Dichlorobenzene	20	20.44	20	20.46	102	102	80-120	0	30
1,4-Dichlorobenzene	20	20.69	20	20.68	103	103	80-120	0	30
Dichlorodifluoromethane	20	19.2	20	19.12	96	96	28-131	0	30
1,1-Dichloroethane	20	19.67	20	19.58	98	98	77-120	0	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloroethane	20	21.95	20	21.7	110	109	77-130	1	30
1,1-Dichloroethene	20	21.3	20	21.18	106	106	73-129	1	30
cis-1,2-Dichloroethene	20	21.83	20	21.57	109	108	80-120	1	30
trans-1,2-Dichloroethene	20	23.05	20	22.95	115	115	80-125	0	30
1,2-Dichloropropane	20	19.31	20	19.03	97	95	76-120	1	30
cis-1,3-Dichloropropene	20	17.44	20	17.6	87	88	74-120	1	30
trans-1,3-Dichloropropene	20	18.64	20	19.15	93	96	76-120	3	30
Ethylbenzene	20	19.87	20	19.72	99	99	80-120	1	30
Freon 113	20	23.15	20	22.13	116	111	57-141	5	30
2-Hexanone	100	68.19	100	61.97	68	62	39-120	10	30
Isopropylbenzene	20	19.76	20	19.58	99	98	70-120	1	30
Methyl Acetate	20	17.87	20	16.59	89	83	52-146	7	30
Methyl Tertiary Butyl Ether	20	19.19	20	19.09	96	95	72-120	1	30
4-Methyl-2-pentanone	100	71.49	100	65.3	71	65	50-120	9	30
Methylcyclohexane	20	18.4	20	18.17	92	91	52-128	1	30
Methylene Chloride	20	21.74	20	21.73	109	109	76-122	0	30
Styrene	20	20.32	20	19.9	102	100	76-120	2	30
1,1,2,2-Tetrachloroethane	20	18.26	20	17.89	91	89	67-121	2	30
Tetrachloroethene	20	21.84	20	21.76	109	109	78-120	0	30
Toluene	20	19.81	20	19.94	99	100	80-120	1	30
1,2,4-Trichlorobenzene	20	17.62	20	16.77	88	84	55-120	5	30
1,1,1-Trichloroethane	20	21.54	20	21.53	108	108	66-128	0	30
1,1,2-Trichloroethane	20	19.82	20	19.71	99	99	80-120	1	30
Trichloroethene	20	22.52	20	21.96	113	110	80-120	3	30
Trichlorofluoromethane	20	22.83	20	22.43	114	112	54-140	2	30
Vinyl Chloride	20	16.36	20	16.93	82	85	59-120	3	30
Xylene (Total)	60	60.36	60	59.81	101	100	80-120	1	30
Batch number: A160671AA	Sample number(s): 8260961								
Acetone	150	136.86	150	129.51	91	86	46-139	6	30
Benzene	20	18.97	20	18.61	95	93	80-120	2	30
Bromodichloromethane	20	17.48	20	17.54	87	88	75-120	0	30
Bromoform	20	15.72	20	16.29	79	81	64-120	4	30
Bromomethane	20	15.47	20	15.29	77	76	16-200	1	30
2-Butanone	150	137.75	150	133.89	92	89	54-129	3	30
Carbon Disulfide	20	18.1	20	17.81	90	89	60-120	2	30
Carbon Tetrachloride	20	19.11	20	18.77	96	94	69-130	2	30
Chlorobenzene	20	18.11	20	18.05	91	90	80-120	0	30
Chloroethane	20	14.81	20	14.78	74	74	11-200	0	30
Chloroform	20	18.76	20	18.54	94	93	80-120	1	30
Chloromethane	20	14.23	20	13.98	71	70	56-120	2	30
Cyclohexane	20	19.54	20	19.5	98	97	58-120	0	30
1,2-Dibromo-3-chloropropane	20	14.88	20	16.68	74	83	54-120	11	30
Dibromochloromethane	20	17.01	20	17.17	85	86	77-120	1	30
1,2-Dibromoethane	20	17.6	20	17.88	88	89	80-120	2	30
1,2-Dichlorobenzene	20	17.96	20	17.87	90	89	80-120	1	30
1,3-Dichlorobenzene	20	18.13	20	17.67	91	88	80-120	3	30
1,4-Dichlorobenzene	20	17.75	20	17.7	89	89	80-120	0	30
Dichlorodifluoromethane	20	13.6	20	13.26	68	66	28-131	3	30
1,1-Dichloroethane	20	18.42	20	18.5	92	92	77-120	0	30
1,2-Dichloroethane	20	18	20	18.16	90	91	77-130	1	30
1,1-Dichloroethene	20	19.42	20	18.87	97	94	73-129	3	30
cis-1,2-Dichloroethene	20	19.47	20	19.44	97	97	80-120	0	30
trans-1,2-Dichloroethene	20	19.36	20	19.27	97	96	80-125	0	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloropropane	20	18.95	20	18.97	95	95	76-120	0	30
cis-1,3-Dichloropropene	20	17.59	20	17.89	88	89	74-120	2	30
trans-1,3-Dichloropropene	20	17.88	20	18.41	89	92	76-120	3	30
Ethylbenzene	20	18.87	20	18.83	94	94	80-120	0	30
Freon 113	20	19.71	20	19.26	99	96	57-141	2	30
2-Hexanone	100	72.17	100	83.97	72	84	39-120	15	30
Isopropylbenzene	20	19.52	20	19.44	98	97	70-120	0	30
Methyl Acetate	20	16.93	20	18.52	85	93	52-146	9	30
Methyl Tertiary Butyl Ether	20	18.46	20	19.36	92	97	72-120	5	30
4-Methyl-2-pentanone	100	75.68	100	84.48	76	84	50-120	11	30
Methylcyclohexane	20	20.45	20	20.26	102	101	52-128	1	30
Methylene Chloride	20	18.58	20	18.33	93	92	76-122	1	30
Styrene	20	19.15	20	18.9	96	95	76-120	1	30
1,1,2,2-Tetrachloroethane	20	16.35	20	17.42	82	87	67-121	6	30
Tetrachloroethene	20	18.93	20	18.9	95	95	78-120	0	30
Toluene	20	18.58	20	18.47	93	92	80-120	1	30
1,2,4-Trichlorobenzene	20	17.56	20	17.66	88	88	55-120	1	30
1,1,1-Trichloroethane	20	18.15	20	18.05	91	90	66-128	1	30
1,1,2-Trichloroethane	20	17.01	20	17.52	85	88	80-120	3	30
Trichloroethene	20	18.92	20	18.68	95	93	80-120	1	30
Trichlorofluoromethane	20	17.22	20	17.03	86	85	54-140	1	30
Vinyl Chloride	20	15.43	20	14.9	77	75	59-120	3	30
Xylene (Total)	60	57.09	60	56.25	95	94	80-120	1	30
Batch number: A160681AA	Sample number(s): 8260962,8260968,8260974-8260978								
Acetone	150	134.9	150	133.63	90	89	46-139	1	30
Benzene	20	18.75	20	18.53	94	93	80-120	1	30
Bromodichloromethane	20	17.94	20	17.65	90	88	75-120	2	30
Bromoform	20	16.27	20	15.39	81	77	64-120	6	30
Bromomethane	20	15.67	20	15.31	78	77	16-200	2	30
2-Butanone	150	137.88	150	133.67	92	89	54-129	3	30
Carbon Disulfide	20	18.06	20	17.64	90	88	60-120	2	30
Carbon Tetrachloride	20	19.44	20	19.27	97	96	69-130	1	30
Chlorobenzene	20	18.2	20	18.07	91	90	80-120	1	30
Chloroethane	20	14.85	20	14.87	74	74	11-200	0	30
Chloroform	20	18.98	20	18.87	95	94	80-120	1	30
Chloromethane	20	13.96	20	13.93	70	70	56-120	0	30
Cyclohexane	20	18.56	20	18.41	93	92	58-120	1	30
1,2-Dibromo-3-chloropropane	20	15.39	20	14.33	77	72	54-120	7	30
Dibromochloromethane	20	17.28	20	16.87	86	84	77-120	2	30
1,2-Dibromoethane	20	17.94	20	17.17	90	86	80-120	4	30
1,2-Dichlorobenzene	20	18.15	20	18.13	91	91	80-120	0	30
1,3-Dichlorobenzene	20	17.88	20	18.14	89	91	80-120	1	30
1,4-Dichlorobenzene	20	17.98	20	18.08	90	90	80-120	1	30
Dichlorodifluoromethane	20	13.46	20	12.99	67	65	28-131	4	30
1,1-Dichloroethane	20	18.51	20	18.44	93	92	77-120	0	30
1,2-Dichloroethane	20	18.55	20	18.33	93	92	77-130	1	30
1,1-Dichloroethene	20	18.79	20	18.68	94	93	73-129	1	30
cis-1,2-Dichloroethene	20	19.43	20	19.18	97	96	80-120	1	30
trans-1,2-Dichloroethene	20	19.81	20	19.53	99	98	80-125	1	30
1,2-Dichloropropane	20	18.65	20	18.69	93	93	76-120	0	30
cis-1,3-Dichloropropene	20	17.34	20	17.63	87	88	74-120	2	30
trans-1,3-Dichloropropene	20	17.44	20	17.36	87	87	76-120	0	30
Ethylbenzene	20	18.98	20	18.87	95	94	80-120	1	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Freon 113	20	19.72	20	19.18	99	96	57-141	3	30
2-Hexanone	100	75.92	100	70.73	76	71	39-120	7	30
Isopropylbenzene	20	19.48	20	19.58	97	98	70-120	1	30
Methyl Acetate	20	18.32	20	16.64	92	83	52-146	10	30
Methyl Tertiary Butyl Ether	20	18.33	20	18.06	92	90	72-120	1	30
4-Methyl-2-pentanone	100	79.15	100	73.39	79	73	50-120	8	30
Methylcyclohexane	20	19.33	20	18.97	97	95	52-128	2	30
Methylene Chloride	20	18.14	20	18.31	91	92	76-122	1	30
Styrene	20	19.13	20	18.91	96	95	76-120	1	30
1,1,2,2-Tetrachloroethane	20	16.61	20	16.27	83	81	67-121	2	30
Tetrachloroethene	20	19	20	19.12	95	96	78-120	1	30
Toluene	20	18.62	20	18.36	93	92	80-120	1	30
1,2,4-Trichlorobenzene	20	17.44	20	17.28	87	86	55-120	1	30
1,1,1-Trichloroethane	20	18.6	20	18.42	93	92	66-128	1	30
1,1,2-Trichloroethane	20	17.08	20	17.27	85	86	80-120	1	30
Trichloroethene	20	18.62	20	18.78	93	94	80-120	1	30
Trichlorofluoromethane	20	16.86	20	16.43	84	82	54-140	3	30
Vinyl Chloride	20	14.69	20	14.75	73	74	59-120	0	30
Xylene (Total)	60	57.15	60	56.57	95	94	80-120	1	30
Batch number: A160691AA	Sample number(s): 8260973								
Acetone	150	136.81	150	130.21	91	87	46-139	5	30
Benzene	20	18.59	20	18.32	93	92	80-120	1	30
Bromodichloromethane	20	16.89	20	16.47	84	82	75-120	2	30
Bromoform	20	16.19	20	15.38	81	77	64-120	5	30
Bromomethane	20	13.63	20	13.13	68	66	16-200	4	30
2-Butanone	150	135.1	150	135.86	90	91	54-129	1	30
Carbon Disulfide	20	17.64	20	17.26	88	86	60-120	2	30
Carbon Tetrachloride	20	17.37	20	17	87	85	69-130	2	30
Chlorobenzene	20	17.72	20	17.36	89	87	80-120	2	30
Chloroethane	20	13.91	20	13.5	70	68	11-200	3	30
Chloroform	20	17.76	20	17.63	89	88	80-120	1	30
Chloromethane	20	12.56	20	12.37	63	62	56-120	2	30
Cyclohexane	20	19.06	20	18.73	95	94	58-120	2	30
1,2-Dibromo-3-chloropropane	20	16.31	20	15.91	82	80	54-120	2	30
Dibromochloromethane	20	16.3	20	16.3	81	82	77-120	0	30
1,2-Dibromoethane	20	17.55	20	17.36	88	87	80-120	1	30
1,2-Dichlorobenzene	20	18.12	20	18.07	91	90	80-120	0	30
1,3-Dichlorobenzene	20	18	20	17.92	90	90	80-120	0	30
1,4-Dichlorobenzene	20	17.73	20	17.74	89	89	80-120	0	30
Dichlorodifluoromethane	20	9.67	20	9.48	48	47	28-131	2	30
1,1-Dichloroethane	20	18.19	20	17.74	91	89	77-120	3	30
1,2-Dichloroethane	20	16.5	20	16.49	83	82	77-130	0	30
1,1-Dichloroethene	20	18.39	20	18.18	92	91	73-129	1	30
cis-1,2-Dichloroethene	20	19.15	20	18.83	96	94	80-120	2	30
trans-1,2-Dichloroethene	20	19.44	20	18.89	97	94	80-125	3	30
1,2-Dichloropropane	20	18.98	20	18.91	95	95	76-120	0	30
cis-1,3-Dichloropropene	20	17.57	20	17.57	88	88	74-120	0	30
trans-1,3-Dichloropropene	20	17.14	20	17.47	86	87	76-120	2	30
Ethylbenzene	20	18.6	20	18.25	93	91	80-120	2	30
Freon 113	20	18.22	20	17.66	91	88	57-141	3	30
2-Hexanone	100	79.96	100	79.91	80	80	39-120	0	30
Isopropylbenzene	20	19.16	20	18.9	96	95	70-120	1	30
Methyl Acetate	20	17.4	20	17.75	87	89	52-146	2	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methyl Tertiary Butyl Ether	20	18.4	20	18.24	92	91	72-120	1	30
4-Methyl-2-pentanone	100	80.95	100	80.09	81	80	50-120	1	30
Methylcyclohexane	20	19.33	20	19.35	97	97	52-128	0	30
Methylene Chloride	20	17.96	20	17.86	90	89	76-122	1	30
Styrene	20	19.03	20	18.63	95	93	76-120	2	30
1,1,2,2-Tetrachloroethane	20	17.92	20	17.93	90	90	67-121	0	30
Tetrachloroethene	20	18.48	20	17.83	92	89	78-120	4	30
Toluene	20	18.56	20	18.22	93	91	80-120	2	30
1,2,4-Trichlorobenzene	20	18.16	20	18.12	91	91	55-120	0	30
1,1,1-Trichloroethane	20	16.85	20	16.33	84	82	66-128	3	30
1,1,2-Trichloroethane	20	17.38	20	17.16	87	86	80-120	1	30
Trichloroethene	20	18.35	20	17.86	92	89	80-120	3	30
Trichlorofluoromethane	20	13.93	20	13.39	70	67	54-140	4	30
Vinyl Chloride	20	13.34	20	13.25	67	66	59-120	1	30
Xylene (Total)	60	55.99	60	55.09	93	92	80-120	2	30
Batch number: R160621AA	Sample number(s): 8260950,8260957-8260959,8260963								
Acetone	7500	5884.62	7500	6400.79	78	85	46-139	8	30
Benzene	1000	958.42	1000	1013.67	96	101	80-120	6	30
Bromodichloromethane	1000	933.44	1000	981.78	93	98	75-120	5	30
Bromoform	1000	966.71	1000	1015.78	97	102	64-120	5	30
Bromomethane	1000	863.59	1000	938.51	86	94	16-200	8	30
2-Butanone	7500	6714.92	7500	7367.85	90	98	54-129	9	30
Carbon Disulfide	1000	1013.78	1000	1113.78	101	111	60-120	9	30
Carbon Tetrachloride	1000	948.08	1000	987.89	95	99	69-130	4	30
Chlorobenzene	1000	930.58	1000	968.72	93	97	80-120	4	30
Chloroethane	1000	832.18	1000	885.73	83	89	11-200	6	30
Chloroform	1000	959.17	1000	1006.85	96	101	80-120	5	30
Chloromethane	1000	783.29	1000	830.32	78	83	56-120	6	30
Cyclohexane	1000	854.4	1000	865.28	85	87	58-120	1	30
1,2-Dibromo-3-chloropropane	1000	836.86	1000	868.87	84	87	54-120	4	30
Dibromochloromethane	1000	974.91	1000	1033.12	97	103	77-120	6	30
1,2-Dibromoethane	1000	992.22	1000	1058	99	106	80-120	6	30
1,2-Dichlorobenzene	1000	989.92	1000	1016.3	99	102	80-120	3	30
1,3-Dichlorobenzene	1000	999.05	1000	1033.4	100	103	80-120	3	30
1,4-Dichlorobenzene	1000	973.61	1000	1017.84	97	102	80-120	4	30
Dichlorodifluoromethane	1000	550.04	1000	566.19	55	57	28-131	3	30
1,1-Dichloroethane	1000	959.1	1000	997.44	96	100	77-120	4	30
1,2-Dichloroethane	1000	965.02	1000	1014.21	97	101	77-130	5	30
1,1-Dichloroethene	1000	1000.04	1000	1049.91	100	105	73-129	5	30
cis-1,2-Dichloroethene	1000	989.31	1000	1049.66	99	105	80-120	6	30
trans-1,2-Dichloroethene	1000	1031.43	1000	1057.97	103	106	80-125	3	30
1,2-Dichloropropane	1000	970.39	1000	1037.85	97	104	76-120	7	30
cis-1,3-Dichloropropene	1000	979.87	1000	1031.08	98	103	74-120	5	30
trans-1,3-Dichloropropene	1000	1012.19	1000	1077.68	101	108	76-120	6	30
Ethylbenzene	1000	922.73	1000	972.84	92	97	80-120	5	30
Freon 113	1000	847.94	1000	864.08	85	86	57-141	2	30
2-Hexanone	5000	4966.54	5000	5118.84	99	102	39-120	3	30
Isopropylbenzene	1000	941.68	1000	987.55	94	99	70-120	5	30
Methyl Acetate	1000	943.42	1000	970.11	94	97	52-146	3	30
Methyl Tertiary Butyl Ether	1000	963.89	1000	1009.83	96	101	72-120	5	30
4-Methyl-2-pentanone	5000	4906.08	5000	5166.51	98	103	50-120	5	30
Methylcyclohexane	1000	820.65	1000	832.48	82	83	52-128	1	30
Methylene Chloride	1000	1022.59	1000	1084.7	102	108	76-122	6	30

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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Styrene	1000	900.61	1000	957.4	90	96	76-120	6	30
1,1,2,2-Tetrachloroethane	1000	930.46	1000	989.43	93	99	67-121	6	30
Tetrachloroethene	1000	990.49	1000	1029.78	99	103	78-120	4	30
Toluene	1000	975.33	1000	1045.31	98	105	80-120	7	30
1,2,4-Trichlorobenzene	1000	1106.06	1000	1048.3	111	105	55-120	5	30
1,1,1-Trichloroethane	1000	923.87	1000	963.51	92	96	66-128	4	30
1,1,2-Trichloroethane	1000	964.15	1000	1016.28	96	102	80-120	5	30
Trichloroethene	1000	973.84	1000	1024.39	97	102	80-120	5	30
Trichlorofluoromethane	1000	880.49	1000	888.73	88	89	54-140	1	30
Vinyl Chloride	1000	807.41	1000	850.93	81	85	59-120	5	30
Xylene (Total)	3000	2839.23	3000	2970.45	95	99	80-120	5	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16064SLB026	Sample number(s): 8260952-8260953,8260956-8260959,8260961-8260966,8260968								
Acenaphthene	1666.67	1767.66			106		83-116		
Acenaphthylene	1666.67	1872.79			112		83-119		
Acetophenone	1666.67	1475.52			89		74-116		
Anthracene	1666.67	1731.96			104		82-118		
Atrazine	1666.67	1506.81			90		62-143		
Benzaldehyde	1666.67	1041.62			62		10-93		
Benzo(a)anthracene	1666.67	1754.17			105		76-119		
Benzo(a)pyrene	1666.67	1729.52			104		85-117		
Benzo(b)fluoranthene	1666.67	1751.05			105		78-129		
Benzo(g,h,i)perylene	1666.67	1740.08			104		77-118		
Benzo(k)fluoranthene	1666.67	1661.9			100		79-120		
1,1'-Biphenyl	1666.67	1615.05			97		76-111		
4-Bromophenyl-phenylether	1666.67	1725.75			104		84-120		
Butylbenzylphthalate	1666.67	1792.66			108		80-118		
Di-n-butylphthalate	1666.67	1735.8			104		84-120		
Caprolactam	1666.67	1453.89			87		73-119		
Carbazole	1666.67	1699.75			102		78-117		
4-Chloro-3-methylphenol	1666.67	1706.49			102		79-127		
4-Chloroaniline	1666.67	715.73			43		10-100		
bis(2-Chloroethoxy)methane	1666.67	1807.9			108		77-116		
bis(2-Chloroethyl)ether	1666.67	1597.29			96		77-115		
2-Chloronaphthalene	1666.67	1639.71			98		63-146		
2-Chlorophenol	1666.67	1730.94			104		85-123		
4-Chlorophenyl-phenylether	1666.67	1655.06			99		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1620.26			97		61-134		
Chrysene	1666.67	1722			103		80-121		
Dibenz(a,h)anthracene	1666.67	1753.06			105		81-123		
Dibenzofuran	1666.67	1709.75			103		85-115		
3,3'-Dichlorobenzidine	1666.67	1525.73			92		10-116		
2,4-Dichlorophenol	1666.67	1777.02			107		86-125		
Diethylphthalate	1666.67	1640.14			98		81-118		
2,4-Dimethylphenol	1666.67	1671.92			100		83-120		
Dimethylphthalate	1666.67	1667.85			100		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1645.67			99		46-134		
2,4-Dinitrophenol	3333.33	3186.41			96		16-132		
2,4-Dinitrotoluene	1666.67	1623.06			97		81-122		
2,6-Dinitrotoluene	1666.67	1674.51			100		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1830.48			110		81-121		
Fluoranthene	1666.67	1689.17			101		81-117		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Fluorene	1666.67	1713.65			103		86-118		
Hexachlorobenzene	1666.67	1615.39			97		79-116		
Hexachlorobutadiene	1666.67	1625.41			98		72-120		
Hexachlorocyclopentadiene	3333.33	4155.2			125		64-137		
Hexachloroethane	1666.67	1639.8			98		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1725.38			104		81-118		
Isophorone	1666.67	1708.01			102		77-118		
2-Methylnaphthalene	1666.67	1657.96			99		83-109		
2-Methylphenol	1666.67	1776.55			107		80-133		
4-Methylphenol	1666.67	1638.97			98		73-125		
Naphthalene	1666.67	1686.9			101		82-112		
2-Nitroaniline	1666.67	1787.86			107		84-126		
3-Nitroaniline	1666.67	1498.43			90		66-119		
4-Nitroaniline	1666.67	1360.7			82		44-110		
Nitrobenzene	1666.67	1732.33			104		70-122		
2-Nitrophenol	1666.67	1789.85			107		83-120		
4-Nitrophenol	1666.67	1756.17			105		52-133		
N-Nitroso-di-n-propylamine	1666.67	1566.17			94		67-121		
N-Nitrosodiphenylamine	1666.67	1747.86			105		83-118		
Di-n-octylphthalate	1666.67	1944.79			117		80-140		
Pentachlorophenol	1666.67	1477.39			89		57-126		
Phenanthrene	1666.67	1617.22			97		80-114		
Phenol	1666.67	1698.54			102		73-122		
Pyrene	1666.67	1656.24			99		81-114		
2,4,5-Trichlorophenol	1666.67	1706.3			102		86-123		
2,4,6-Trichlorophenol	1666.67	1860.07			112		81-123		
Batch number: 16064SLF026	Sample number(s): 8260969-8260971,8260973-8260978								
Acenaphthene	1666.67	1608.52			97		83-116		
Acenaphthylene	1666.67	1730.16			104		83-119		
Acetophenone	1666.67	1659.45			100		74-116		
Anthracene	1666.67	1662.76			100		82-118		
Atrazine	1666.67	1592.36			96		62-143		
Benzaldehyde	1666.67	1069.64			64		10-93		
Benzo(a)anthracene	1666.67	1710.08			103		76-119		
Benzo(a)pyrene	1666.67	1670.99			100		85-117		
Benzo(b)fluoranthene	1666.67	1711.24			103		78-129		
Benzo(g,h,i)perylene	1666.67	1650.96			99		77-118		
Benzo(k)fluoranthene	1666.67	1619.13			97		79-120		
1,1'-Biphenyl	1666.67	1447.57			87		76-111		
4-Bromophenyl-phenylether	1666.67	1720.27			103		84-120		
Butylbenzylphthalate	1666.67	1740.22			104		80-118		
Di-n-butylphthalate	1666.67	1710.02			103		84-120		
Caprolactam	1666.67	1427.04			86		73-119		
Carbazole	1666.67	1627.73			98		78-117		
4-Chloro-3-methylphenol	1666.67	1915.25			115		79-127		
4-Chloroaniline	1666.67	1028.6			62		10-100		
bis(2-Chloroethoxy)methane	1666.67	1645.41			99		77-116		
bis(2-Chloroethyl)ether	1666.67	1737.98			104		77-115		
2-Chloronaphthalene	1666.67	1956.57			117		63-146		
2-Chlorophenol	1666.67	1960.69			118		85-123		
4-Chlorophenyl-phenylether	1666.67	1804.51			108		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1404.77			84		61-134		
Chrysene	1666.67	1596.76			96		80-121		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dibenz(a,h)anthracene	1666.67	1725.01			104		81-123		
Dibenzofuran	1666.67	1700.99			102		85-115		
3,3'-Dichlorobenzidine	1666.67	1617.78			97		10-116		
2,4-Dichlorophenol	1666.67	1885.89			113		86-125		
Diethylphthalate	1666.67	1660.43			100		81-118		
2,4-Dimethylphenol	1666.67	1804.69			108		83-120		
Dimethylphthalate	1666.67	1650.66			99		82-113		
4,6-Dinitro-2-methylphenol	1666.67	2010.07			121		46-134		
2,4-Dinitrophenol	3333.33	2808.28			84		16-132		
2,4-Dinitrotoluene	1666.67	1728.47			104		81-122		
2,6-Dinitrotoluene	1666.67	1851.63			111		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1761.45			106		81-121		
Fluoranthene	1666.67	1584.29			95		81-117		
Fluorene	1666.67	1628.29			98		86-118		
Hexachlorobenzene	1666.67	1627.42			98		79-116		
Hexachlorobutadiene	1666.67	1995.41			120		72-120		
Hexachlorocyclopentadiene	3333.33	4533.53			136		64-137		
Hexachloroethane	1666.67	1835.73			110		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1633.12			98		81-118		
Isophorone	1666.67	1713.56			103		77-118		
2-Methylnaphthalene	1666.67	1604.77			96		83-109		
2-Methylphenol	1666.67	1995.39			120		80-133		
4-Methylphenol	1666.67	1872.54			112		73-125		
Naphthalene	1666.67	1589.46			95		82-112		
2-Nitroaniline	1666.67	1711.12			103		84-126		
3-Nitroaniline	1666.67	1641.42			98		66-119		
4-Nitroaniline	1666.67	1432.04			86		44-110		
Nitrobenzene	1666.67	1761.86			106		70-122		
2-Nitrophenol	1666.67	1955.06			117		83-120		
4-Nitrophenol	1666.67	1977.39			119		52-133		
N-Nitroso-di-n-propylamine	1666.67	1766.62			106		67-121		
N-Nitrosodiphenylamine	1666.67	1741.01			104		83-118		
Di-n-octylphthalate	1666.67	1983.95			119		80-140		
Pentachlorophenol	1666.67	1814.54			109		57-126		
Phenanthrene	1666.67	1499.43			90		80-114		
Phenol	1666.67	1781.28			107		73-122		
Pyrene	1666.67	1646.05			99		81-114		
2,4,5-Trichlorophenol	1666.67	2011.9			121		86-123		
2,4,6-Trichlorophenol	1666.67	1980.02			119		81-123		
Batch number: 16068SLD026	Sample number(s): 8260950-8260951,8260954-8260955								
Acenaphthene	1666.67	1678.79			101		83-116		
Acenaphthylene	1666.67	1815.57			109		83-119		
Acetophenone	1666.67	1571.6			94		74-116		
Anthracene	1666.67	1696.67			102		82-118		
Atrazine	1666.67	1513.44			91		62-143		
Benzaldehyde	1666.67	1057.72			63		10-93		
Benzo(a)anthracene	1666.67	1598.36			96		76-119		
Benzo(a)pyrene	1666.67	1659.41			100		85-117		
Benzo(b)fluoranthene	1666.67	1595.24			96		78-129		
Benzo(g,h,i)perylene	1666.67	1835.09			110		77-118		
Benzo(k)fluoranthene	1666.67	1751.28			105		79-120		
1,1'-Biphenyl	1666.67	1491.75			90		76-111		
4-Bromophenyl-phenylether	1666.67	1901.12			114		84-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Butylbenzylphthalate	1666.67	1825.86			110		80-118		
Di-n-butylphthalate	1666.67	1724.08			103		84-120		
Caprolactam	1666.67	1687.92			101		73-119		
Carbazole	1666.67	1670.14			100		78-117		
4-Chloro-3-methylphenol	1666.67	1966.39			118		79-127		
4-Chloroaniline	1666.67	652.21			39		10-100		
bis(2-Chloroethoxy)methane	1666.67	1769.45			106		77-116		
bis(2-Chloroethyl)ether	1666.67	1540.07			92		77-115		
2-Chloronaphthalene	1666.67	1679.43			101		63-146		
2-Chlorophenol	1666.67	1815.9			109		85-123		
4-Chlorophenyl-phenylether	1666.67	1641.71			99		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1522.87			91		61-134		
Chrysene	1666.67	1699.01			102		80-121		
Dibenz(a,h)anthracene	1666.67	1792.43			108		81-123		
Dibenzofuran	1666.67	1662.17			100		85-115		
3,3'-Dichlorobenzidine	1666.67	1673.83			100		10-116		
2,4-Dichlorophenol	1666.67	1822.24			109		86-125		
Diethylphthalate	1666.67	1711.41			103		81-118		
2,4-Dimethylphenol	1666.67	1865.49			112		83-120		
Dimethylphthalate	1666.67	1709.27			103		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1686.78			101		46-134		
2,4-Dinitrophenol	3333.33	2511.14			75		16-132		
2,4-Dinitrotoluene	1666.67	1730.97			104		81-122		
2,6-Dinitrotoluene	1666.67	1700.71			102		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1739.66			104		81-121		
Fluoranthene	1666.67	1537.74			92		81-117		
Fluorene	1666.67	1636.7			98		86-118		
Hexachlorobenzene	1666.67	1781.46			107		79-116		
Hexachlorobutadiene	1666.67	1698.86			102		72-120		
Hexachlorocyclopentadiene	3333.33	3981.94			119		64-137		
Hexachloroethane	1666.67	1713.07			103		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1752.24			105		81-118		
Isophorone	1666.67	1798.64			108		77-118		
2-Methylnaphthalene	1666.67	1732.85			104		83-109		
2-Methylphenol	1666.67	1822.72			109		80-133		
4-Methylphenol	1666.67	1824.72			109		73-125		
Naphthalene	1666.67	1652.27			99		82-112		
2-Nitroaniline	1666.67	1834.66			110		84-126		
3-Nitroaniline	1666.67	1615.21			97		66-119		
4-Nitroaniline	1666.67	1487.93			89		44-110		
Nitrobenzene	1666.67	1738.33			104		70-122		
2-Nitrophenol	1666.67	1825.03			110		83-120		
4-Nitrophenol	1666.67	1591.58			95		52-133		
N-Nitroso-di-n-propylamine	1666.67	1781.5			107		67-121		
N-Nitrosodiphenylamine	1666.67	1607.53			96		83-118		
Di-n-octylphthalate	1666.67	1696.17			102		80-140		
Pentachlorophenol	1666.67	1849.76			111		57-126		
Phenanthrene	1666.67	1568.35			94		80-114		
Phenol	1666.67	1720.67			103		73-122		
Pyrene	1666.67	1629.66			98		81-114		
2,4,5-Trichlorophenol	1666.67	1818.59			109		86-123		
2,4,6-Trichlorophenol	1666.67	1743.76			105		81-123		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 160620006A	Sample number(s): 8260950-8260952								
4-Amino-2,6-Dinitrotoluene	2010	2140.19			106		42-138		
2-Amino-4,6-Dinitrotoluene	2010	2207.48			110		43-141		
2,6-Diamino-4-nitrotoluene	1800	1854	1800	1854.31	103	103	80-115	0	50
2,4-Diamino-6-nitrotoluene	1810	1740.59	1810	1716.42	96	95	79-115	1	50
3,5-Dinitroaniline	2000	2225.08			111		47-141		
1,3-Dinitrobenzene	2000	2271.84			114		54-140		
2,4-Dinitrotoluene	2010	2224.64			111		52-137		
2,6-Dinitrotoluene	2010	2148.71			107		51-138		
HMX	2010	2293.96			114		29-148		
Nitrobenzene	2000	2487.13			124		64-138		
Nitroglycerin	22100	21918.22			99		45-137		
2-Nitrotoluene	2010	2147.14			107		57-135		
3-Nitrotoluene	2010	2119.75			105		57-135		
4-Nitrotoluene	2000	2147.18			107		53-133		
PETN	22100	22306.66			101		36-143		
RDX	2000	2424.11			121		45-145		
Tetryl	2000	2224.59			111		38-152		
1,3,5-Trinitrobenzene	2010	2261.89			113		48-141		
2,4,6-Trinitrotoluene	2000	2242.76			112		47-140		
Batch number: 160620007A	Sample number(s): 8260953-8260954,8260964-8260966,8260968-8260969,8260971								
4-Amino-2,6-Dinitrotoluene	2010	2095.69			104		42-138		
2-Amino-4,6-Dinitrotoluene	2010	2179.1			108		43-141		
2,6-Diamino-4-nitrotoluene	1800	1799.58	1800	1808.96	100	100	80-115	1	50
2,4-Diamino-6-nitrotoluene	1810	1714.41	1810	1685.24	95	93	79-115	2	50
3,5-Dinitroaniline	2000	2177.8			109		47-141		
1,3-Dinitrobenzene	2000	2227.13			111		54-140		
2,4-Dinitrotoluene	2010	2201.97			110		52-137		
2,6-Dinitrotoluene	2010	2115.77			105		51-138		
HMX	2010	2254.22			112		29-148		
Nitrobenzene	2000	2382.09			119		64-138		
Nitroglycerin	22100	21640.2			98		45-137		
2-Nitrotoluene	2010	2106.12			105		57-135		
3-Nitrotoluene	2010	2104.14			105		57-135		
4-Nitrotoluene	2000	2099.66			105		53-133		
PETN	22100	22114.54			100		36-143		
RDX	2000	2368.44			118		45-145		
Tetryl	2000	2182.51			109		38-152		
1,3,5-Trinitrobenzene	2010	2218.59			110		48-141		
2,4,6-Trinitrotoluene	2000	2242.27			112		47-140		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 160610026A	Sample number(s): 8260950-8260959								
PCB-1016	168	152.76			91		76-121		
PCB-1260	168	187.24			111		79-130		
Batch number: 160640019A	Sample number(s): 8260961,8260963-8260966,8260968-8260971,8260973-8260978								
PCB-1016	168	159			95		76-121		
PCB-1260	168	195.58			116		79-130		
Batch number: 160680020A	Sample number(s): 8260962								
PCB-1016	167.9	149.92			89		76-121		
PCB-1260	168.3	180.96			108		79-130		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160630033A	Sample number(s): 8260950-8260959,8260961-8260965								
Ethylene glycol	104	93.33			90		76-122		
Batch number: 160670008A	Sample number(s): 8260966,8260968-8260971,8260973-8260978								
Ethylene glycol	104	99.29			95		76-122		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160610637002	Sample number(s): 8260950-8260966,8260968								
Aluminum	200	203.41			102		80-120		
Barium	200	210.58			105		80-120		
Calcium	400	418.01			105		80-120		
Cobalt	50	53.35			107		80-120		
Copper	25	26.59			106		80-120		
Iron	100	98.16			98		80-120		
Lead	15	15.95			106		80-120		
Magnesium	200	207.29			104		80-120		
Manganese	50	53.08			106		80-120		
Nickel	50	53.95			108		80-120		
Potassium	1000	1003.44			100		80-120		
Sodium	1000	1004.15			100		80-120		
Titanium	100	105.05			105		80-120		
Vanadium	50	54.22			108		80-120		
Zinc	50	51.69			103		80-120		
Batch number: 160610637002A	Sample number(s): 8260950-8260966,8260968								
Antimony	0.600	0.636			106		80-120		
Arsenic	1.00	1.12			112		80-120		
Beryllium	0.400	0.402			101		80-120		
Cadmium	0.500	0.557			111		80-120		
Chromium	5.00	5.47			109		80-120		
Silver	5.00	5.39			108		80-120		
Thallium	0.200	0.214			107		80-120		
Batch number: 160610637002B	Sample number(s): 8260950-8260966,8260968								
Selenium	1.00	1.05			105		80-120		
Batch number: 160610638002	Sample number(s): 8260950-8260966,8260968								
Mercury	0.100	0.0923			92		80-120		
Batch number: 160620637001	Sample number(s): 8260969-8260971								
Aluminum	200	203.13			102		80-120		
Barium	200	201.89			101		80-120		
Calcium	400	406.14			102		80-120		
Cobalt	50	50.48			101		80-120		
Copper	25	26.43			106		80-120		
Iron	100	100.84			101		80-120		
Lead	15	15.47			103		80-120		
Magnesium	200	203.56			102		80-120		
Manganese	50	49.93			100		80-120		
Nickel	50	51.45			103		80-120		
Potassium	1000	1000.87			100		80-120		
Sodium	1000	1000.81			100		80-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Titanium	100	101.23			101		80-120		
Vanadium	50	52.42			105		80-120		
Zinc	50	49.63			99		80-120		
Batch number: 160620637001A	Sample number(s): 8260969-8260971								
Antimony	0.600	0.614			102		80-120		
Arsenic	1.00	1.06			106		80-120		
Beryllium	0.400	0.435			109		80-120		
Cadmium	0.500	0.534			107		80-120		
Chromium	5.00	5.10			102		80-120		
Silver	5.00	5.19			104		80-120		
Thallium	0.200	0.214			107		80-120		
Batch number: 160620637001B	Sample number(s): 8260969-8260971								
Selenium	1.00	1.09			109		80-120		
Batch number: 160620638001	Sample number(s): 8260969-8260971								
Mercury	0.100	0.0926			93		80-120		
Batch number: 160630637002	Sample number(s): 8260973-8260978								
Aluminum	200	211.3			106		80-120		
Barium	200	205.61			103		80-120		
Calcium	400	420.73			105		80-120		
Cobalt	50	51.36			103		80-120		
Copper	25	26.46			106		80-120		
Iron	100	101.39			101		80-120		
Lead	15	15.44			103		80-120		
Magnesium	200	211.28			106		80-120		
Manganese	50	51.28			103		80-120		
Nickel	50	52.88			106		80-120		
Potassium	1000	1040.1			104		80-120		
Sodium	1000	1041.55			104		80-120		
Titanium	100	102.36			102		80-120		
Vanadium	50	52.61			105		80-120		
Zinc	50	51.09			102		80-120		
Batch number: 160630637002A	Sample number(s): 8260973-8260978								
Antimony	0.600	0.614			102		80-120		
Arsenic	1.00	1.10			110		80-120		
Beryllium	0.400	0.418			105		80-120		
Cadmium	0.500	0.521			104		80-120		
Chromium	5.00	5.26			105		80-120		
Silver	5.00	5.44			109		80-120		
Thallium	0.200	0.213			107		80-120		
Batch number: 160630637002B	Sample number(s): 8260973-8260978								
Selenium	1.00	1.05			105		80-120		
Batch number: 160630638001	Sample number(s): 8260973-8260978								
Mercury	0.100	0.0898			90		80-120		
	%	%	%	%					
Batch number: 16062820010A	Sample number(s): 8260955-8260963,8260970,8260973-8260977								
Moisture	89.5	89.42			100		99-101		
Moisture	89.5	89.42			100		99-101		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	LCS Spike Added %	LCS Conc %	LCSD Spike Added %	LCSD Conc %	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Moisture Duplicate	89.5	89.42			100		99-101		
Batch number: 16064820002A	Sample number(s): 8260978								
Moisture	89.5	89.47			100		99-101		
Batch number: 16077820012A	Sample number(s): 8260950-8260954,8260964-8260966,8260968-8260969,8260971								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A160681AA	Sample number(s): 8260962,8260968,8260974-8260978 UNSPK: P262180									
Acetone	32.55	193.8	373.87	210.09	607.24	176*	274*	46-139	48*	30
Benzene	< 5	25.84	29.18	28.01	36.21	113	129*	80-120	21	30
Bromodichloromethane	< 5	25.84	23.48	28.01	26.45	91	94	75-120	12	30
Bromoform	< 5	25.84	18.6	28.01	17.25	72	62*	64-120	8	30
Bromomethane	< 5	25.84	29.53	28.01	42.05	114	150	16-200	35*	30
2-Butanone	6.14	193.8	178.27	210.09	281.45	89	131*	54-129	45*	30
Carbon Disulfide	< 5	25.84	28.78	28.01	37.24	111	133*	60-120	26	30
Carbon Tetrachloride	< 5	25.84	24.12	28.01	25.9	93	92	69-130	7	30
Chlorobenzene	< 5	25.84	24.37	28.01	27.31	94	98	80-120	11	30
Chloroethane	< 5	25.84	25.46	28.01	37.53	99	134	11-200	38*	30
Chloroform	< 5	25.84	28.24	28.01	36.85	109	132*	80-120	26	30
Chloromethane	< 5	25.84	32.21	28.01	47.41	125*	169*	56-120	38*	30
Cyclohexane	14.96	25.84	18.81	28.01	24.54	15*	34*	58-120	26	30
1,2-Dibromo-3-chloropropane	< 5	25.84	24.29	28.01	25.94	94	93	54-120	7	30
Dibromochloromethane	< 5	25.84	24.43	28.01	29.65	95	106	77-120	19	30
1,2-Dibromoethane	< 5	25.84	28.66	28.01	37.72	111	135*	80-120	27	30
1,2-Dichlorobenzene	< 5	25.84	18.16	28.01	20.49	70*	73*	80-120	12	30
1,3-Dichlorobenzene	< 5	25.84	19.24	28.01	25.63	74*	91	80-120	28	30
1,4-Dichlorobenzene	< 5	25.84	19.48	28.01	25.15	75*	90	80-120	25	30
Dichlorodifluoromethane	< 5	25.84	27.66	28.01	33.4	107	119	28-131	19	30
1,1-Dichloroethane	< 5	25.84	29.42	28.01	41.61	114	149*	77-120	34*	30
1,2-Dichloroethane	< 5	25.84	25.7	28.01	36.35	99	130	77-130	34*	30
1,1-Dichloroethene	< 5	25.84	30.78	28.01	42.15	119	150*	73-129	31*	30
cis-1,2-Dichloroethene	< 5	25.84	28.87	28.01	41.73	112	149*	80-120	36*	30
trans-1,2-Dichloroethene	< 5	25.84	30.39	28.01	43.24	118	154*	80-125	35*	30
1,2-Dichloropropane	< 5	25.84	28.07	28.01	32.56	109	116	76-120	15	30
cis-1,3-Dichloropropene	< 5	25.84	23.54	28.01	26.15	91	93	74-120	10	30
trans-1,3-Dichloropropene	< 5	25.84	27.71	28.01	37.4	107	134*	76-120	30	30
Ethylbenzene	< 5	25.84	21.97	28.01	26.35	85	94	80-120	18	30
Freon 113	< 10	25.84	27.12	28.01	32.74	105	117	57-141	19	30
2-Hexanone	< 10	129.2	157.1	140.06	279.15	122*	199*	39-120	56*	30
Isopropylbenzene	33.49	25.84	16.17	28.01	22.88	-66*	-37*	70-120	34*	30
Methyl Acetate	< 5	25.84	26.56	28.01	59.58	103	213*	52-146	77*	30
Methyl Tertiary Butyl Ether	< 5	25.84	27.58	28.01	44.28	107	158*	72-120	46*	30
4-Methyl-2-pentanone	< 10	129.2	126.59	140.06	186.59	98	133*	50-120	38*	30
Methylcyclohexane	53.23	25.84	11.28	28.01	24.01	-161*	-103*	52-128	72*	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Methylene Chloride	< 5	25.84	27.62	28.01	43.57	107	156*	76-122	45*	30
Styrene	< 5	25.84	20.83	28.01	20.69	81	74*	76-120	1	30
1,1,2,2-Tetrachloroethane	< 5	25.84	35.18	28.01	59.06	136*	211*	67-121	51*	30
Tetrachloroethene	< 5	25.84	23.46	28.01	33.32	91	119	78-120	35*	30
Toluene	< 5	25.84	31	28.01	41.35	120	148*	80-120	29	30
1,2,4-Trichlorobenzene	< 5	25.84	8.95	28.01	19.02	35*	68	55-120	72*	30
1,1,1-Trichloroethane	< 5	25.84	26.28	28.01	27.29	102	97	66-128	4	30
1,1,2-Trichloroethane	< 5	25.84	29.85	28.01	44.36	116	158*	80-120	39*	30
Trichloroethene	< 5	25.84	26.46	28.01	28.36	102	101	80-120	7	30
Trichlorofluoromethane	< 5	25.84	29.52	28.01	32.87	114	117	54-140	11	30
Vinyl Chloride	< 5	25.84	32.07	28.01	45.5	124*	162*	59-120	35*	30
Xylene (Total)	1.49	77.52	62.74	84.04	73.11	79*	85	80-120	15	30
Batch number: A160691AA	Sample number(s): 8260973 UNSPK: P262914									
Acetone	15.19	151.82	138.71	160.95	108.11	81	58	46-139	25	30
Benzene	< 6	20.24	21.42	21.46	20.85	106	97	80-120	3	30
Bromodichloromethane	< 6	20.24	19.16	21.46	17.82	95	83	75-120	7	30
Bromoform	< 6	20.24	19.04	21.46	16.29	94	76	64-120	16	30
Bromomethane	< 6	20.24	15.02	21.46	14.57	74	68	16-200	3	30
2-Butanone	< 13	151.82	134.53	160.95	107.57	89	67	54-129	22	30
Carbon Disulfide	< 6	20.24	20.95	21.46	20.79	103	97	60-120	1	30
Carbon Tetrachloride	< 6	20.24	21.2	21.46	20.95	105	98	69-130	1	30
Chlorobenzene	< 6	20.24	19.73	21.46	19.21	97	90	80-120	3	30
Chloroethane	< 6	20.24	15.16	21.46	14.69	75	68	11-200	3	30
Chloroform	< 6	20.24	20.59	21.46	19.74	102	92	80-120	4	30
Chloromethane	< 6	20.24	13.99	21.46	13.37	69	62	56-120	5	30
Cyclohexane	< 6	20.24	23.23	21.46	23.4	115	109	58-120	1	30
1,2-Dibromo-3-chloropropane	< 6	20.24	21.36	21.46	16.31	106	76	54-120	27	30
Dibromochloromethane	< 6	20.24	18.97	21.46	17.11	94	80	77-120	10	30
1,2-Dibromoethane	< 6	20.24	20.8	21.46	18.91	103	88	80-120	10	30
1,2-Dichlorobenzene	< 6	20.24	19.46	21.46	18.22	96	85	80-120	7	30
1,3-Dichlorobenzene	< 6	20.24	19.22	21.46	18.49	95	86	80-120	4	30
1,4-Dichlorobenzene	< 6	20.24	18.75	21.46	17.83	93	83	80-120	5	30
Dichlorodifluoromethane	< 6	20.24	11.32	21.46	10.82	56	50	28-131	4	30
1,1-Dichloroethane	< 6	20.24	20.57	21.46	20.28	102	95	77-120	1	30
1,2-Dichloroethane	< 6	20.24	19.75	21.46	17.98	98	84	77-130	9	30
1,1-Dichloroethene	< 6	20.24	22.26	21.46	22.26	110	104	73-129	0	30
cis-1,2-Dichloroethene	< 6	20.24	22.16	21.46	21.51	109	100	80-120	3	30
trans-1,2-Dichloroethene	< 6	20.24	22.47	21.46	21.97	111	102	80-125	2	30
1,2-Dichloropropane	< 6	20.24	21.52	21.46	20.77	106	97	76-120	4	30
cis-1,3-Dichloropropene	< 6	20.24	20.25	21.46	18.89	100	88	74-120	7	30
trans-1,3-Dichloropropene	< 6	20.24	19.9	21.46	18.32	98	85	76-120	8	30
Ethylbenzene	< 6	20.24	20.75	21.46	20.63	102	96	80-120	1	30
Freon 113	< 13	20.24	23.07	21.46	22.44	114	105	57-141	3	30
2-Hexanone	< 13	101.21	109.79	107.3	87.78	108	82	39-120	22	30
Isopropylbenzene	< 6	20.24	21.71	21.46	21.44	107	100	70-120	1	30
Methyl Acetate	< 6	20.24	22.71	21.46	18.04	112	84	52-146	23	30
Methyl Tertiary Butyl Ether	< 6	20.24	21.65	21.46	19.01	107	89	72-120	13	30
4-Methyl-2-pentanone	< 13	101.21	112.84	107.3	89.71	111	84	50-120	23	30
Methylcyclohexane	< 6	20.24	24.41	21.46	23.75	121	111	52-128	3	30
Methylene Chloride	2.63	20.24	20.69	21.46	21.21	89	87	76-122	2	30
Styrene	< 6	20.24	17.79	21.46	16.79	88	78	76-120	6	30
1,1,2,2-Tetrachloroethane	< 6	20.24	21.62	21.46	18.3	107	85	67-121	17	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Tetrachloroethene	< 6	20.24	21.27	21.46	21.18	105	99	78-120	0	30
Toluene	< 6	20.24	20.8	21.46	20.61	103	96	80-120	1	30
1,2,4-Trichlorobenzene	< 6	20.24	18.26	21.46	16.48	90	77	55-120	10	30
1,1,1-Trichloroethane	< 6	20.24	20.11	21.46	19.87	99	93	66-128	1	30
1,1,2-Trichloroethane	< 6	20.24	19.45	21.46	17.95	96	84	80-120	8	30
Trichloroethene	< 6	20.24	21.58	21.46	21.01	107	98	80-120	3	30
Trichlorofluoromethane	< 6	20.24	16.92	21.46	16.03	84	75	54-140	5	30
Vinyl Chloride	< 6	20.24	15.52	21.46	15.23	77	71	59-120	2	30
Xylene (Total)	< 6	60.73	62.14	64.38	61.27	102	95	80-120	1	30
Batch number: R160621AA	Sample number(s): 8260950,8260957-8260959,8260963 UNSPK: 8260957									
Acetone	< 960	8970.9	7435.09	7562.72	7019.05	83	93	46-139	6	30
Benzene	< 240	1196.12	1093.21	1008.36	1015.33	91	101	80-120	7	30
Bromodichloromethane	< 240	1196.12	1073.69	1008.36	1023.24	90	101	75-120	5	30
Bromoform	< 240	1196.12	1121.95	1008.36	1082.91	94	107	64-120	4	30
Bromomethane	< 240	1196.12	971.92	1008.36	971.31	81	96	16-200	0	30
2-Butanone	< 480	8970.9	8028.56	7562.72	7507.9	89	99	54-129	7	30
Carbon Disulfide	< 240	1196.12	1126.94	1008.36	1078.2	94	107	60-120	4	30
Carbon Tetrachloride	< 240	1196.12	1086.11	1008.36	1043.67	91	104	69-130	4	30
Chlorobenzene	< 240	1196.12	1066.01	1008.36	1004.86	89	100	80-120	6	30
Chloroethane	< 240	1196.12	956.36	1008.36	920.44	80	91	11-200	4	30
Chloroform	< 240	1196.12	1144.49	1008.36	1084.68	96	108	80-120	5	30
Chloromethane	< 240	1196.12	819.42	1008.36	838	69	83	56-120	2	30
Cyclohexane	< 240	1196.12	1032.11	1008.36	896.28	86	89	58-120	14	30
1,2-Dibromo-3-chloropropane	< 240	1196.12	953.7	1008.36	898.24	80	89	54-120	6	30
Dibromochloromethane	< 240	1196.12	1146.65	1008.36	1062.95	96	105	77-120	8	30
1,2-Dibromoethane	< 240	1196.12	1110.9	1008.36	1058.22	93	105	80-120	5	30
1,2-Dichlorobenzene	< 240	1196.12	1082.76	1008.36	1027.82	91	102	80-120	5	30
1,3-Dichlorobenzene	< 240	1196.12	1104.49	1008.36	1042.06	92	103	80-120	6	30
1,4-Dichlorobenzene	< 240	1196.12	1084.02	1008.36	1014.7	91	101	80-120	7	30
Dichlorodifluoromethane	< 240	1196.12	393.92	1008.36	427.07	33	42	28-131	8	30
1,1-Dichloroethane	< 240	1196.12	1109.89	1008.36	1057.91	93	105	77-120	5	30
1,2-Dichloroethane	< 240	1196.12	1110.9	1008.36	1025.34	93	102	77-130	8	30
1,1-Dichloroethene	84.99	1196.12	1196.77	1008.36	1112.29	93	102	73-129	7	30
cis-1,2-Dichloroethene	< 240	1196.12	1161.16	1008.36	1085.76	97	108	80-120	7	30
trans-1,2-Dichloroethene	< 240	1196.12	1177.67	1008.36	1110.07	98	110	80-125	6	30
1,2-Dichloropropane	< 240	1196.12	1125.14	1008.36	1055.06	94	105	76-120	6	30
cis-1,3-Dichloropropene	< 240	1196.12	1108.22	1008.36	1061.8	93	105	74-120	4	30
trans-1,3-Dichloropropene	< 240	1196.12	1111.27	1008.36	1071.17	93	106	76-120	4	30
Ethylbenzene	< 240	1196.12	1075.82	1008.36	994.99	90	99	80-120	8	30
Freon 113	< 480	1196.12	909.51	1008.36	905.1	76	90	57-141	0	30
2-Hexanone	< 480	5980.6	5711.72	5041.81	5457.62	96	108	39-120	5	30
Isopropylbenzene	< 240	1196.12	1090.75	1008.36	1028.92	91	102	70-120	6	30
Methyl Acetate	< 240	1196.12	1193.06	1008.36	1097.35	100	109	52-146	8	30
Methyl Tertiary Butyl Ether	< 240	1196.12	1140.8	1008.36	1055.41	95	105	72-120	8	30
4-Methyl-2-pentanone	< 480	5980.6	5583.06	5041.81	5323.02	93	106	50-120	5	30
Methylcyclohexane	92.56	1196.12	1259.6	1008.36	953.72	98	85	52-128	28	30
Methylene Chloride	< 240	1196.12	1188.11	1008.36	1112.68	99	110	76-122	7	30
Styrene	< 240	1196.12	1034.1	1008.36	978.14	86	97	76-120	6	30
1,1,2,2-Tetrachloroethane	< 240	1196.12	1091.71	1008.36	1031.67	91	102	67-121	6	30
Tetrachloroethene	34342.72	1196.12	36386.02	1008.36	14968.2	171 (2)	-1920 (2)	78-120	83*	30
Toluene	< 240	1196.12	1225.37	1008.36	1076.85	102	107	80-120	13	30

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,2,4-Trichlorobenzene	< 240	1196.12	1001.39	1008.36	1024.11	84	102	55-120	2	30
1,1,1-Trichloroethane	967.26	1196.12	2183.4	1008.36	1417.54	102	45*	66-128	43*	30
1,1,2-Trichloroethane	< 240	1196.12	1078.59	1008.36	1038.02	90	103	80-120	4	30
Trichloroethene	675.16	1196.12	1895.42	1008.36	1363.61	102	68*	80-120	33*	30
Trichlorofluoromethane	< 240	1196.12	970.35	1008.36	951.99	81	94	54-140	2	30
Vinyl Chloride	< 240	1196.12	833.38	1008.36	840.57	70	83	59-120	1	30
Xylene (Total)	< 240	3588.36	3590.25	3025.09	3099.32	100	102	80-120	15	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16064SLB026	Sample number(s): 8260952-8260953,8260956-8260959,8260961-8260966,8260968 UNSPK: 8260957									
Acenaphthene	< 17	1660.03	1637.58	1649.08	1679.38	99	102	83-116	3	30
Acenaphthylene	8.61	1660.03	1746.68	1649.08	1759.11	105	106	83-119	1	30
Acetophenone	< 33	1660.03	1375.1	1649.08	1422.71	83	86	74-116	3	30
Anthracene	10.12	1660.03	1621.41	1649.08	1684.37	97	102	82-118	4	30
Atrazine	< 160	1660.03	1315.78	1649.08	1321.44	79	80	62-143	0	30
Benzaldehyde	< 160	1660.03	1181.92	1649.08	1239.28	71	75	10-93	5	30
Benzo(a)anthracene	42.64	1660.03	1642.84	1649.08	1709.23	96	101	76-119	4	30
Benzo(a)pyrene	38.82	1660.03	1546.77	1649.08	1659.88	91	98	85-117	7	30
Benzo(b)fluoranthene	59.58	1660.03	1671.54	1649.08	1681.07	97	98	78-129	1	30
Benzo(g,h,i)perylene	39.42	1660.03	1624.94	1649.08	1692.37	96	100	77-118	4	30
Benzo(k)fluoranthene	24.11	1660.03	1484.24	1649.08	1591.88	88	95	79-120	7	30
1,1'-Biphenyl	< 33	1660.03	1538.37	1649.08	1538.38	93	93	76-111	0	30
4-Bromophenyl-phenylether	< 33	1660.03	1639.47	1649.08	1697.44	99	103	84-120	3	30
Butylbenzylphthalate	< 160	1660.03	1701.31	1649.08	1738.56	102	105	80-118	2	30
Di-n-butylphthalate	< 160	1660.03	1607.13	1649.08	1646.29	97	100	84-120	2	30
Caprolactam	< 160	1660.03	1247.14	1649.08	1321.7	75	80	73-119	6	30
Carbazole	< 33	1660.03	1545.69	1649.08	1646.31	93	100	78-117	6	30
4-Chloro-3-methylphenol	< 33	1660.03	1472.11	1649.08	1537.99	89	93	79-127	4	30
4-Chloroaniline	< 66	1660.03	593.13	1649.08	701.46	36	43	10-100	17	30
bis(2-Chloroethoxy)methane	< 33	1660.03	1631.81	1649.08	1662.69	98	101	77-116	2	30
bis(2-Chloroethyl)ether	< 33	1660.03	1553.11	1649.08	1571.62	94	95	77-115	1	30
2-Chloronaphthalene	< 33	1660.03	1473.74	1649.08	1507	89	91	63-146	2	30
2-Chlorophenol	< 33	1660.03	1538.73	1649.08	1580.43	93	96	85-123	3	30
4-Chlorophenyl-phenylether	< 33	1660.03	1511.5	1649.08	1549.63	91	94	81-120	2	30
2,2'-oxybis(1-Chloropropane)	< 33	1660.03	1539.07	1649.08	1592.15	93	97	61-134	3	30
Chrysene	72.5	1660.03	1649.49	1649.08	1740.32	95	101	80-121	5	30
Dibenz(a,h)anthracene	< 17	1660.03	1659.62	1649.08	1772.72	100	107	81-123	7	30
Dibenzofuran	21.77	1660.03	1610.98	1649.08	1611.67	96	96	85-115	0	30
3,3'-Dichlorobenzidine	< 330	1660.03	811.97	1649.08	961.47	49	58	10-116	17	30
2,4-Dichlorophenol	< 33	1660.03	1502.94	1649.08	1572.68	91	95	86-125	5	30
Diethylphthalate	< 160	1660.03	1556.54	1649.08	1539.63	94	93	81-118	1	30
2,4-Dimethylphenol	< 33	1660.03	882.2	1649.08	982.92	53*	60*	83-120	11	30
Dimethylphthalate	< 160	1660.03	1540.81	1649.08	1559.86	93	95	82-113	1	30
4,6-Dinitro-2-methylphenol	< 490	1660.03	1483.16	1649.08	1555.81	89	94	46-134	5	30
2,4-Dinitrophenol	< 990	3320.05	2591.57	3298.15	2648.41	78	80	16-132	2	30
2,4-Dinitrotoluene	< 160	1660.03	1490.69	1649.08	1527.56	90	93	81-122	2	30
2,6-Dinitrotoluene	< 33	1660.03	1544.29	1649.08	1549.11	93	94	86-125	0	30
bis(2-Ethylhexyl)phthalate	< 170	1660.03	1702.69	1649.08	1738.48	103	105	81-121	2	30
Fluoranthene	57.13	1660.03	1580.52	1649.08	1689.2	92	99	81-117	7	30
Fluorene	< 17	1660.03	1576.88	1649.08	1606.8	95	97	86-118	2	30
Hexachlorobenzene	< 17	1660.03	1485.48	1649.08	1592.57	89	97	79-116	7	30
Hexachlorobutadiene	< 33	1660.03	1537.4	1649.08	1573.74	93	95	72-120	2	30

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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Hexachlorocyclopentadiene	< 490	3320.05	2645.59	3298.15	2848.55	80	86	64-137	7	30
Hexachloroethane	< 160	1660.03	1602.99	1649.08	1623.18	97	98	78-114	1	30
Indeno(1,2,3-cd)pyrene	28.74	1660.03	1643.38	1649.08	1696.22	97	101	81-118	3	30
Isophorone	< 33	1660.03	1589.31	1649.08	1633.37	96	99	77-118	3	30
2-Methylnaphthalene	62.27	1660.03	1547.46	1649.08	1597.07	89	93	83-109	3	30
2-Methylphenol	< 33	1660.03	1343.79	1649.08	1419.7	81	86	80-133	5	30
4-Methylphenol	< 33	1660.03	1347.37	1649.08	1403.08	81	85	73-125	4	30
Naphthalene	42.28	1660.03	1617.46	1649.08	1649.02	95	97	82-112	2	30
2-Nitroaniline	< 33	1660.03	1608.81	1649.08	1658.99	97	101	84-126	3	30
3-Nitroaniline	< 160	1660.03	1400.6	1649.08	1380.3	84	84	66-119	1	30
4-Nitroaniline	< 160	1660.03	1188.61	1649.08	1237.37	72	75	44-110	4	30
Nitrobenzene	< 33	1660.03	1547.47	1649.08	1630.78	93	99	70-122	5	30
2-Nitrophenol	< 33	1660.03	1648.17	1649.08	1738.05	99	105	83-120	5	30
4-Nitrophenol	< 490	1660.03	1474.28	1649.08	1607.23	89	97	52-133	9	30
N-Nitroso-di-n-propylamine	< 33	1660.03	1518.79	1649.08	1558.55	91	95	67-121	3	30
N-Nitrosodiphenylamine	< 33	1660.03	1436.97	1649.08	1524.25	87	92	83-118	6	30
Di-n-octylphthalate	< 160	1660.03	1758.2	1649.08	1789.75	106	109	80-140	2	30
Pentachlorophenol	< 170	1660.03	1123.43	1649.08	1225.98	68	74	57-126	9	30
Phenanthrene	77.97	1660.03	1570.99	1649.08	1635.99	90	94	80-114	4	30
Phenol	< 33	1660.03	1510.81	1649.08	1498.9	91	91	73-122	1	30
Pyrene	56.96	1660.03	1600.31	1649.08	1618.06	93	95	81-114	1	30
2,4,5-Trichlorophenol	< 33	1660.03	1584.61	1649.08	1603.79	95	97	86-123	1	30
2,4,6-Trichlorophenol	< 33	1660.03	1489.28	1649.08	1618.48	90	98	81-123	8	30
Batch number: 16064SLF026	Sample number(s): 8260969-8260971,8260973-8260978 UNSPK: P262180									
Acenaphthene	< 1,700	1662.79	5323.88	1647.99	6299.74	320*	382*	83-116	17	30
Acenaphthylene	< 1,700	1662.79	2631.66	1647.99	2154.81	158*	131*	83-119	20	30
Acetophenone	< 3,300	1662.79	1927.74	1647.99	N.D.	116	0*	74-116	200*	30
Anthracene	1852.13	1662.79	6753.18	1647.99	8483.69	295*	402*	82-118	23	30
Atrazine	< 16,000	1662.79	4198.47	1647.99	6462.46	252*	392*	62-143	42*	30
Benzaldehyde	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	10-93	0	30
Benzo(a)anthracene	7621.54	1662.79	18194.21	1647.99	17545.38	636 (2)	602 (2)	76-119	4	30
Benzo(a)pyrene	8119.53	1662.79	14859.53	1647.99	20354.05	405 (2)	742 (2)	85-117	31*	30
Benzo(b)fluoranthene	6143.19	1662.79	10482.64	1647.99	11743.21	261*	340*	78-129	11	30
Benzo(g,h,i)perylene	8481.62	1662.79	13795.71	1647.99	15175.54	320 (2)	406 (2)	77-118	10	30
Benzo(k)fluoranthene	1337.35	1662.79	3112.6	1647.99	3741.93	107	146*	79-120	18	30
1,1'-Biphenyl	< 3,300	1662.79	N.D.	1647.99	1844.92	0*	112*	76-111	200*	30
4-Bromophenyl-phenylether	< 3,300	1662.79	9715.76	1647.99	4621.26	584*	280*	84-120	71*	30
Butylbenzylphthalate	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	80-118	0	30
Di-n-butylphthalate	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	84-120	0	30
Caprolactam	< 16,000	1662.79	N.D.	1647.99	4946.18	0*	300*	73-119	200*	30
Carbazole	< 3,300	1662.79	3272.66	1647.99	3520.63	197*	214*	78-117	7	30
4-Chloro-3-methylphenol	< 3,300	1662.79	N.D.	1647.99	2635.73	0*	160*	79-127	200*	30
4-Chloroaniline	< 6,600	1662.79	N.D.	1647.99	N.D.	0*	0*	10-100	0	30
bis(2-Chloroethoxy)methane	< 3,300	1662.79	2115.23	1647.99	1991.86	127*	121*	77-116	6	30
bis(2-Chloroethyl)ether	< 3,300	1662.79	2044.53	1647.99	N.D.	123*	0*	77-115	200*	30
2-Chloronaphthalene	< 3,300	1662.79	3298.4	1647.99	1530.88	198*	93	63-146	73*	30
2-Chlorophenol	< 3,300	1662.79	1925.21	1647.99	N.D.	116	0*	85-123	200*	30
4-Chlorophenyl-phenylether	< 3,300	1662.79	2950.91	1647.99	4030.95	177*	245*	81-120	31*	30
2,2'-oxybis(1-Chloropropane)	< 3,300	1662.79	N.D.	1647.99	1743.7	0*	106	61-134	200*	30
Chrysene	17350.48	1662.79	32906.19	1647.99	38899.77	936 (2)	1308 (2)	80-121	17	30
Dibenz(a,h)anthracene	3154.73	1662.79	6524.68	1647.99	6559.06	203*	207*	81-123	1	30

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(1) The result for one or both determinations was less than five times the LOQ.
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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Dibenzofuran	< 3,300	1662.79	2352.11	1647.99	2912.89	141*	177*	85-115	21	30
3,3'-Dichlorobenzidine	< 33,000	1662.79	N.D.	1647.99	N.D.	0*	0*	10-116	0	30
2,4-Dichlorophenol	< 3,300	1662.79	1782.41	1647.99	1684.05	107	102	86-125	6	30
Diethylphthalate	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	81-118	0	30
2,4-Dimethylphenol	< 3,300	1662.79	2023.91	1647.99	1716.28	122*	104	83-120	16	30
Dimethylphthalate	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	82-113	0	30
4,6-Dinitro-2-methylphenol	< 49,000	1662.79	N.D.	1647.99	N.D.	0*	0*	46-134	0	30
2,4-Dinitrophenol	< 99,000	3325.57	N.D.	3295.98	N.D.	0*	0*	16-132	0	30
2,4-Dinitrotoluene	< 16,000	1662.79	N.D.	1647.99	9344.99	0*	567*	81-122	200*	30
2,6-Dinitrotoluene	< 3,300	1662.79	3302.63	1647.99	3221.85	199*	196*	86-125	2	30
bis(2-Ethylhexyl)phthalate	< 17,000	1662.79	N.D.	1647.99	N.D.	0*	0*	81-121	0	30
Fluoranthene	2511.42	1662.79	8436.28	1647.99	9678.58	356*	435*	81-117	14	30
Fluorene	< 1,700	1662.79	4304.96	1647.99	6017.67	259*	365*	86-118	33*	30
Hexachlorobenzene	< 1,700	1662.79	1641.94	1647.99	1346.18	99	82	79-116	20	30
Hexachlorobutadiene	< 3,300	1662.79	N.D.	1647.99	N.D.	0*	0*	72-120	0	30
Hexachlorocyclopentadiene	< 49,000	3325.57	N.D.	3295.98	N.D.	0*	0*	64-137	0	30
Hexachloroethane	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	78-114	0	30
Indeno(1,2,3-cd)pyrene	2196.24	1662.79	8809.58	1647.99	7260.68	398*	307*	81-118	19	30
Isophorone	< 3,300	1662.79	N.D.	1647.99	N.D.	0*	0*	77-118	0	30
2-Methylnaphthalene	< 1,700	1662.79	1845.96	1647.99	1692.25	111*	103	83-109	9	30
2-Methylphenol	< 3,300	1662.79	N.D.	1647.99	1910.25	0*	116	80-133	200*	30
4-Methylphenol	< 3,300	1662.79	1960.73	1647.99	1673.1	118	102	73-125	16	30
Naphthalene	< 1,700	1662.79	1566.84	1647.99	1638.69	94	99	82-112	4	30
2-Nitroaniline	< 3,300	1662.79	2717.26	1647.99	3145.48	163*	191*	84-126	15	30
3-Nitroaniline	< 16,000	1662.79	N.D.	1647.99	7572.97	0*	460*	66-119	200*	30
4-Nitroaniline	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	44-110	0	30
Nitrobenzene	< 3,300	1662.79	1847.79	1647.99	1979.63	111	120	70-122	7	30
2-Nitrophenol	< 3,300	1662.79	2037.21	1647.99	1840.34	123*	112	83-120	10	30
4-Nitrophenol	< 49,000	1662.79	N.D.	1647.99	23198.39	0*	1408*	52-133	200*	30
N-Nitroso-di-n-propylamine	< 3,300	1662.79	2357.2	1647.99	2067.6	142*	125*	67-121	13	30
N-Nitrosodiphenylamine	< 3,300	1662.79	48313.74	1647.99	41618.39	2906*	2525*	83-118	15	30
Di-n-octylphthalate	< 16,000	1662.79	N.D.	1647.99	N.D.	0*	0*	80-140	0	30
Pentachlorophenol	< 17,000	1662.79	4013.7	1647.99	8414.04	241*	511*	57-126	71*	30
Phenanthrene	3056.95	1662.79	6795.94	1647.99	7543.77	225*	272*	80-114	10	30
Phenol	< 3,300	1662.79	1710.11	1647.99	1894.3	103	115	73-122	10	30
Pyrene	14251.34	1662.79	27134.72	1647.99	29809.76	775 (2)	944 (2)	81-114	9	30
2,4,5-Trichlorophenol	< 3,300	1662.79	2270.83	1647.99	4150.89	137*	252*	86-123	59*	30
2,4,6-Trichlorophenol	< 3,300	1662.79	2955.74	1647.99	2275.54	178*	138*	81-123	26	30
Batch number: 16068SLD026	Sample number(s): 8260950-8260951,8260954-8260955 UNSPK: P262914									
Acenaphthene	< 17	1643.66	1678.69	1644.74	1731.26	102	105	83-116	3	30
Acenaphthylene	< 17	1643.66	1738.44	1644.74	1823.52	106	111	83-119	5	30
Acetophenone	< 33	1643.66	1599.22	1644.74	1522.86	97	93	74-116	5	30
Anthracene	< 17	1643.66	1599.8	1644.74	1677.32	97	102	82-118	5	30
Atrazine	< 170	1643.66	1385.77	1644.74	1340.74	84	82	62-143	3	30
Benzaldehyde	< 170	1643.66	1092.68	1644.74	987.36	66	60	10-93	10	30
Benzo(a)anthracene	< 17	1643.66	1431.96	1644.74	1455.45	87	88	76-119	2	30
Benzo(a)pyrene	< 17	1643.66	1620.74	1644.74	1643.73	99	100	85-117	1	30
Benzo(b)fluoranthene	< 17	1643.66	1655.07	1644.74	1629.99	101	99	78-129	2	30
Benzo(g,h,i)perylene	< 17	1643.66	1784.84	1644.74	1742.31	109	106	77-118	2	30
Benzo(k)fluoranthene	< 17	1643.66	1632.35	1644.74	1748.62	99	106	79-120	7	30
1,1'-Biphenyl	< 33	1643.66	1481.84	1644.74	1502.64	90	91	76-111	1	30
4-Bromophenyl-phenylether	< 33	1643.66	1926.98	1644.74	1869.46	117	114	84-120	3	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Butylbenzylphthalate	< 170	1643.66	1766.36	1644.74	1765.96	107	107	80-118	0	30
Di-n-butylphthalate	< 170	1643.66	1608.04	1644.74	1639.05	98	100	84-120	2	30
Caprolactam	< 170	1643.66	1460.81	1644.74	1637.77	89	100	73-119	11	30
Carbazole	< 33	1643.66	1545.94	1644.74	1549.86	94	94	78-117	0	30
4-Chloro-3-methylphenol	< 33	1643.66	1667.97	1644.74	1903.03	101	116	79-127	13	30
4-Chloroaniline	< 66	1643.66	846.03	1644.74	894.85	51	54	10-100	6	30
bis(2-Chloroethoxy)methane	< 33	1643.66	1586.19	1644.74	1662.08	97	101	77-116	5	30
bis(2-Chloroethyl)ether	< 33	1643.66	1573.21	1644.74	1436.39	96	87	77-115	9	30
2-Chloronaphthalene	< 33	1643.66	1777.81	1644.74	1818.52	108	111	63-146	2	30
2-Chlorophenol	< 33	1643.66	1702.09	1644.74	1613.53	104	98	85-123	5	30
4-Chlorophenyl-phenylether	< 33	1643.66	1625.22	1644.74	1695.05	99	103	81-120	4	30
2,2'-oxybis(1-Chloropropane)	< 33	1643.66	1560.66	1644.74	1410.71	95	86	61-134	10	30
Chrysene	< 17	1643.66	1528.29	1644.74	1550.58	93	94	80-121	1	30
Dibenz(a,h)anthracene	< 17	1643.66	1746.9	1644.74	1771.3	106	108	81-123	1	30
Dibenzofuran	< 33	1643.66	1654.92	1644.74	1705.64	101	104	85-115	3	30
3,3'-Dichlorobenzidine	< 330	1643.66	1380.81	1644.74	1428.52	84	87	10-116	3	30
2,4-Dichlorophenol	< 33	1643.66	1723.06	1644.74	1786.86	105	109	86-125	4	30
Diethylphthalate	< 170	1643.66	1668.58	1644.74	1771.22	102	108	81-118	6	30
2,4-Dimethylphenol	< 33	1643.66	1599.87	1644.74	1688.68	97	103	83-120	5	30
Dimethylphthalate	< 170	1643.66	1647.54	1644.74	1753.69	100	107	82-113	6	30
4,6-Dinitro-2-methylphenol	< 500	1643.66	1278.79	1644.74	1225.24	78	74	46-134	4	30
2,4-Dinitrophenol	< 990	3287.31	1676.83	3289.47	1943.31	51	59	16-132	15	30
2,4-Dinitrotoluene	< 170	1643.66	1640.81	1644.74	1704.11	100	104	81-122	4	30
2,6-Dinitrotoluene	< 33	1643.66	1620.03	1644.74	1740.96	99	106	86-125	7	30
bis(2-Ethylhexyl)phthalate	< 170	1643.66	1633.35	1644.74	1653.61	99	101	81-121	1	30
Fluoranthene	4.07	1643.66	1437	1644.74	1457.61	87	88	81-117	1	30
Fluorene	< 17	1643.66	1617.63	1644.74	1719.85	98	105	86-118	6	30
Hexachlorobenzene	< 17	1643.66	1819.79	1644.74	1912.16	111	116	79-116	5	30
Hexachlorobutadiene	< 33	1643.66	1678.64	1644.74	1631.4	102	99	72-120	3	30
Hexachlorocyclopentadiene	< 500	3287.31	3702.11	3289.47	3705.58	113	113	64-137	0	30
Hexachloroethane	< 170	1643.66	1813.78	1644.74	1572.31	110	96	78-114	14	30
Indeno(1,2,3-cd)pyrene	< 17	1643.66	1687.26	1644.74	1799.7	103	109	81-118	6	30
Isophorone	< 33	1643.66	1598.84	1644.74	1735.46	97	106	77-118	8	30
2-Methylnaphthalene	< 17	1643.66	1594.42	1644.74	1728.49	97	105	83-109	8	30
2-Methylphenol	< 33	1643.66	1783	1644.74	1694.98	108	103	80-133	5	30
4-Methylphenol	< 33	1643.66	1687.91	1644.74	1601.49	103	97	73-125	5	30
Naphthalene	< 17	1643.66	1583.92	1644.74	1647.11	96	100	82-112	4	30
2-Nitroaniline	< 33	1643.66	1683.92	1644.74	1745.36	102	106	84-126	4	30
3-Nitroaniline	< 170	1643.66	1608.64	1644.74	1659.92	98	101	66-119	3	30
4-Nitroaniline	< 170	1643.66	1382.9	1644.74	1426.81	84	87	44-110	3	30
Nitrobenzene	< 33	1643.66	1672.26	1644.74	1722.9	102	105	70-122	3	30
2-Nitrophenol	< 33	1643.66	1636.37	1644.74	1679.04	100	102	83-120	3	30
4-Nitrophenol	< 500	1643.66	1533.81	1644.74	1678.66	93	102	52-133	9	30
N-Nitroso-di-n-propylamine	< 33	1643.66	1809.66	1644.74	1640.33	110	100	67-121	10	30
N-Nitrosodiphenylamine	< 33	1643.66	1583.22	1644.74	1579.51	96	96	83-118	0	30
Di-n-octylphthalate	< 170	1643.66	1746.75	1644.74	1796.15	106	109	80-140	3	30
Pentachlorophenol	< 170	1643.66	1621.94	1644.74	1522.58	99	93	57-126	6	30
Phenanthrene	< 17	1643.66	1527.93	1644.74	1558.41	93	95	80-114	2	30
Phenol	< 33	1643.66	1686.1	1644.74	1555.99	103	95	73-122	8	30
Pyrene	< 17	1643.66	1603.06	1644.74	1631.95	98	99	81-114	2	30
2,4,5-Trichlorophenol	< 33	1643.66	1782.54	1644.74	1757.31	108	107	86-123	1	30
2,4,6-Trichlorophenol	< 33	1643.66	1750.52	1644.74	1775.24	107	108	81-123	1	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 160620006A	Sample number(s): 8260950-8260952 UNSPK: P260046									
4-Amino-2,6-Dinitrotoluene	< 120	1960	1150.41	1930	748.38	59	39*	42-138	42	50
2-Amino-4,6-Dinitrotoluene	< 120	1960	1189.42	1930	738.56	61	38*	43-141	47	50
3,5-Dinitroaniline	< 120	1950	1187.85	1930	717.46	61	37*	47-141	49	50
1,3-Dinitrobenzene	< 120	1950	1310.12	1920	826.1	67	43*	54-140	45	50
2,4-Dinitrotoluene	< 120	1960	1297.06	1930	831.72	66	43*	52-137	44	50
2,6-Dinitrotoluene	< 120	1960	1254.7	1930	839.47	64	43*	51-138	40	50
HMX	< 290	1960	1189.78	1930	693.42	61	36	29-148	53*	50
Nitrobenzene	< 290	1950	1494.23	1920	1032.9	77	54*	64-138	37	50
Nitroglycerin	< 2,300	21600	12366.9	21300	7469.4	57	35*	45-137	49	50
2-Nitrotoluene	< 120	1960	1281.88	1930	862.96	65	45*	57-135	39	50
3-Nitrotoluene	< 120	1960	1288.21	1930	843.66	66	44*	57-135	42	50
4-Nitrotoluene	< 120	1950	1211.34	1930	749.9	62	39*	53-133	47	50
PETN	< 2,300	21500	12062.23	21200	7174.85	56	34*	36-143	51*	50
RDX	< 120	1950	1291.46	1920	771.21	66	40*	45-145	50	50
Tetryl	< 290	1950	993.98	1920	562.24	51	29*	38-152	55*	50
1,3,5-Trinitrobenzene	< 120	1960	1238.72	1930	1059.46	63	55	48-141	16	50
2,4,6-Trinitrotoluene	< 120	1950	1074.84	1930	699.01	55	36*	47-140	42	50
Batch number: 160620007A	Sample number(s): 8260953-8260954,8260964-8260966,8260968-8260969,8260971 UNSPK: P262914									
4-Amino-2,6-Dinitrotoluene	< 120	1930	1635	1990	1591.81	85	80	42-138	3	50
2-Amino-4,6-Dinitrotoluene	< 120	1930	1694.13	1990	1611.69	88	81	43-141	5	50
3,5-Dinitroaniline	< 120	1920	1704.09	1980	1635.51	89	83	47-141	4	50
1,3-Dinitrobenzene	< 120	1920	1806.9	1980	1720.41	94	87	54-140	5	50
2,4-Dinitrotoluene	< 120	1930	1764.76	1990	1681.27	91	84	52-137	5	50
2,6-Dinitrotoluene	< 120	1930	1683.8	1990	1622.37	87	82	51-138	4	50
HMX	< 290	1930	1697.7	1990	1631.52	88	82	29-148	4	50
Nitrobenzene	< 290	1920	1978.03	1980	1882.5	103	95	64-138	5	50
Nitroglycerin	< 2,300	21300	16874.81	21900	16328.35	79	75	45-137	3	50
2-Nitrotoluene	< 120	1930	1727.69	1990	1656.44	90	83	57-135	4	50
3-Nitrotoluene	< 120	1930	1713.57	1990	1638.19	89	82	57-135	4	50
4-Nitrotoluene	< 120	1920	1712.7	1980	1625.92	89	82	53-133	5	50
PETN	< 2,300	21200	17180.97	21900	16686.11	81	76	36-143	3	50
RDX	< 120	1920	1858.73	1980	1792.7	97	91	45-145	4	50
Tetryl	< 290	1920	1316.48	1980	1083.3	69	55	38-152	19	50
1,3,5-Trinitrobenzene	< 120	1930	1709.48	1990	1569.76	89	79	48-141	9	50
2,4,6-Trinitrotoluene	< 120	1920	1703.77	1980	1615.91	89	82	47-140	5	50
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 160610026A	Sample number(s): 8260950-8260959 UNSPK: 8260957									
PCB-1016	< 17	168	142.52	165	143.43	85	87	76-121	1	50
PCB-1260	< 17	168	189.36	166	180.59	113	109	79-130	5	50
Batch number: 160640019A	Sample number(s): 8260961,8260963-8260966,8260968-8260971,8260973-8260978 UNSPK: 8260961									
PCB-1016	< 17	167	123.72	166	110.91	74*	67*	76-121	11	50
PCB-1260	26.37	168	184.06	167	163.19	94	82	79-130	12	50
Batch number: 160680020A	Sample number(s): 8260962 UNSPK: P268010									
PCB-1016	< 17	166.79	130.38	167.34	120.2	78	72*	76-121	8	50
PCB-1260	< 17	167.19	172.98	167.74	166.08	103	99	79-130	4	50

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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 160630033A	Sample number(s): 8260950-8260959,8260961-8260965 UNSPK: 8260957									
Ethylene glycol	< 10	104	84.18	104	94.62	81	91	76-122	12	20
Batch number: 160670008A	Sample number(s): 8260966,8260968-8260971,8260973-8260978 UNSPK: P262914									
Ethylene glycol	< 10	104	92.71	104	108.53	89	104	76-122	16	20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160610637002	Sample number(s): 8260950-8260966,8260968 UNSPK: 8260957									
Aluminum	17251.04	144.93	17779.7	163.93	18917.08	365 (2)	1016 (2)	75-125	6	20
Barium	130.7	144.93	319.18	163.93	284.55	130*	94	75-125	11	20
Calcium	2317.89	289.86	3873.39	327.87	2431.73	537 (2)	35 (2)	75-125	46*	20
Cobalt	8.35	36.23	39.51	40.98	44.31	86	88	75-125	11	20
Copper	48.57	18.12	74.95	20.49	65.44	146*	82	75-125	14	20
Iron	22017.05	72.46	19559.68	81.97	16447.07	-3391 (2)	-6795 (2)	75-125	17	20
Lead	139.74	10.87	181.05	12.3	147.71	380 (2)	65 (2)	75-125	20	20
Magnesium	1723.41	144.93	2217.21	163.93	2423.8	341 (2)	427 (2)	75-125	9	20
Manganese	657.68	36.23	632	40.98	822.56	-71 (2)	402 (2)	75-125	26*	20
Nickel	8.25	36.23	41.66	40.98	45.62	92	91	75-125	9	20
Potassium	1829.31	724.64	3052.86	819.67	3257.64	169*	174*	75-125	6	20
Sodium	67.84	724.64	736.72	819.67	805.35	92	90	75-125	9	20
Titanium	664.2	72.46	775.91	81.97	820.81	154 (2)	191 (2)	75-125	6	20
Vanadium	34.74	36.23	70.52	40.98	73.66	99	95	75-125	4	20
Zinc	88.79	36.23	133.55	40.98	107.49	124	46*	75-125	22*	20
Batch number: 160610637002A	Sample number(s): 8260950-8260966,8260968 UNSPK: 8260957									
Antimony	1.45	0.870	1.99	0.984	1.13	62*	-33*	75-125	55*	20
Arsenic	7.73	1.45	8.82	1.64	7.01	75 (2)	-44 (2)	75-125	23*	20
Beryllium	1.04	0.580	1.39	0.656	1.36	61*	49*	75-125	2	20
Cadmium	0.229	0.725	0.922	0.820	1.01	96	95	75-125	9	20
Chromium	20.75	7.25	29.23	8.20	25.02	117	52*	75-125	16	20
Silver	0.101	7.25	7.36	8.20	8.34	100	101	75-125	13	20
Thallium	0.290	0.290	0.534	0.328	0.611	84	98	75-125	13	20
Batch number: 160610637002B	Sample number(s): 8260950-8260966,8260968 UNSPK: 8260957									
Selenium	0.569	1.45	1.96	1.64	1.88	96	80	75-125	4	20
Batch number: 160610638002	Sample number(s): 8260950-8260966,8260968 UNSPK: 8260957									
Mercury	0.0502	0.166	0.227	0.165	0.229	107	108	80-120	1	20
Batch number: 160620637001	Sample number(s): 8260969-8260971 UNSPK: P262914									
Aluminum	5001.89	196.08	4606.82	196.08	4496.86	-201 (2)	-258 (2)	75-125	2	20
Barium	14.17	196.08	211.84	196.08	212.12	101	101	75-125	0	20
Calcium	186.49	392.16	681.29	392.16	697.06	126*	130*	75-125	2	20
Cobalt	1.25	49.02	50.02	49.02	49.53	99	98	75-125	1	20
Copper	55.21	24.51	32.64	24.51	33.79	-92*	-87*	75-125	3	20
Iron	4404.85	98.04	4773.12	98.04	4833.77	376 (2)	437 (2)	75-125	1	20
Lead	2.16	14.71	16.84	14.71	17.43	100	104	75-125	3	20
Magnesium	283.52	196.08	505.19	196.08	523.53	113	122	75-125	4	20
Manganese	122.01	49.02	175.24	49.02	173.2	109	104	75-125	1	20
Nickel	1.89	49.02	51.21	49.02	50.85	101	100	75-125	1	20
Potassium	233.65	980.39	1281.21	980.39	1273.77	107	106	75-125	1	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Sodium	48.46	980.39	1062.93	980.39	1049.4	103	102	75-125	1	20
Titanium	255.17	98.04	345.61	98.04	360.84	92	108	75-125	4	20
Vanadium	8.20	49.02	59.81	49.02	58.67	105	103	75-125	2	20
Zinc	8.03	49.02	56.02	49.02	57.04	98	100	75-125	2	20
Batch number: 160620637001A	Sample number(s): 8260969-8260971 UNSPK: P262914									
Antimony	< 0.392	1.18	1.06	1.18	1.14	90	96	75-125	7	20
Arsenic	0.402	1.96	2.22	1.96	2.14	93	89	75-125	4	20
Beryllium	0.168	0.784	0.988	0.784	0.901	105	93	75-125	9	20
Cadmium	< 0.196	0.980	1.03	0.980	0.946	105	96	75-125	9	20
Chromium	5.18	9.80	15.63	9.80	13.98	107	90	75-125	11	20
Silver	< 0.196	9.80	9.47	9.80	9.61	97	98	75-125	1	20
Thallium	0.0431	0.392	0.423	0.392	0.408	97	93	75-125	4	20
Batch number: 160620637001B	Sample number(s): 8260969-8260971 UNSPK: P262914									
Selenium	< 0.784	1.96	2.12	1.96	2.10	108	107	75-125	1	20
Batch number: 160620638001	Sample number(s): 8260969-8260971 UNSPK: P262914									
Mercury	< 0.188	0.159	0.150	0.163	0.145	94	89	80-120	4	20
Batch number: 160630637002	Sample number(s): 8260973-8260978 UNSPK: P262937									
Aluminum	4292.78	169.49	6374.95	196.08	6570.94	1228 (2)	1162 (2)	75-125	3	20
Barium	18.69	169.49	189.49	196.08	212.4	101	99	75-125	11	20
Calcium	199.38	338.98	641.77	392.16	715	131*	131*	75-125	11	20
Cobalt	1.70	42.37	43.07	49.02	49.21	98	97	75-125	13	20
Copper	3.49	21.19	24.11	24.51	27.96	97	100	75-125	15	20
Iron	5430.03	84.75	5311.81	98.04	5613.16	-140 (2)	187 (2)	75-125	6	20
Lead	2.42	12.71	14.37	14.71	16.74	94	97	75-125	15	20
Magnesium	494.42	169.49	744.46	196.08	786.95	148*	149*	75-125	6	20
Manganese	106.48	42.37	144.92	49.02	150.31	91	89	75-125	4	20
Nickel	1.82	42.37	44.6	49.02	51.13	101	101	75-125	14	20
Potassium	449.12	847.46	1377.69	980.39	1537.72	110	111	75-125	11	20
Sodium	27.94	847.46	901.71	980.39	1032.94	103	103	75-125	14	20
Titanium	228.34	84.75	352.97	98.04	382.99	147*	158*	75-125	8	20
Vanadium	9.66	42.37	53.94	49.02	60.33	105	103	75-125	11	20
Zinc	10.72	42.37	51.81	49.02	58.81	97	98	75-125	13	20
Batch number: 160630637002A	Sample number(s): 8260973-8260978 UNSPK: P262937									
Antimony	< 0.331	1.02	0.783	1.18	0.972	77	83	75-125	22*	20
Arsenic	0.669	1.69	2.35	1.96	2.90	99	114	75-125	21*	20
Beryllium	0.173	0.678	0.875	0.784	0.953	104	99	75-125	9	20
Cadmium	< 0.165	0.847	0.911	0.980	1.05	108	107	75-125	14	20
Chromium	5.68	8.47	14.06	9.80	17.72	99	123	75-125	23*	20
Silver	< 0.165	8.47	8.79	9.80	10.5	104	107	75-125	18	20
Thallium	0.0555	0.339	0.399	0.392	0.466	101	105	75-125	16	20
Batch number: 160630637002B	Sample number(s): 8260973-8260978 UNSPK: P262937									
Selenium	< 0.661	1.69	1.79	1.96	2.05	106	104	75-125	13	20
Batch number: 160630638001	Sample number(s): 8260973-8260978 UNSPK: P263710									
Mercury	2.65	0.156	3.72	0.157	2.99	681 (2)	218 (2)	80-120	22*	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 160610637002	Sample number(s): 8260950-8260966,8260968 BKG: 8260957			
Aluminum	17251.04	13693.35	23*	20
Barium	130.7	191.5	38*	20
Calcium	2317.89	2762.81	18	20
Cobalt	8.35	8.51	2	20
Copper	48.57	48.05	1	20
Iron	22017.05	18698.5	16	20
Lead	139.74	116.29	18	20
Magnesium	1723.41	2043.89	17	20
Manganese	657.68	1370.6	70*	20
Nickel	8.25	7.97	3 (1)	20
Potassium	1829.31	2118.9	15	20
Sodium	67.84	62.26	9 (1)	20
Titanium	664.2	650.54	2	20
Vanadium	34.74	31.4	10	20
Zinc	88.79	80.4	10	20
Batch number: 160610637002A	Sample number(s): 8260950-8260966,8260968 BKG: 8260957			
Antimony	1.45	1.52	5 (1)	20
Arsenic	7.73	8.09	5	20
Beryllium	1.04	0.895	15 (1)	20
Cadmium	0.229	0.307	29* (1)	20
Chromium	20.75	18.15	13	20
Silver	0.101	0.0967	4 (1)	20
Thallium	0.290	0.358	21* (1)	20
Batch number: 160610637002B	Sample number(s): 8260950-8260966,8260968 BKG: 8260957			
Selenium	0.569	0.491	15 (1)	20
Batch number: 160610638002	Sample number(s): 8260950-8260966,8260968 BKG: 8260957			
Mercury	0.0502	0.0478	5 (1)	20
Batch number: 160620637001	Sample number(s): 8260969-8260971 BKG: P262914			
Aluminum	5001.89	3416.56	38*	20
Barium	14.17	14.18	0	20
Calcium	186.49	164.03	13 (1)	20
Cobalt	1.25	1.16	7 (1)	20
Copper	55.21	9.10	143* (1)	20
Iron	4404.85	4181.15	5	20
Lead	2.16	2.23	3 (1)	20
Magnesium	283.52	236.9	18	20
Manganese	122.01	114.41	6	20
Nickel	1.89	1.36	33* (1)	20
Potassium	233.65	208.19	12 (1)	20
Sodium	48.46	40.26	18 (1)	20
Titanium	255.17	220.03	15	20
Vanadium	8.20	7.26	12	20
Zinc	8.03	7.92	1 (1)	20
Batch number: 160620637001A	Sample number(s): 8260969-8260971 BKG: P262914			

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Antimony	< 0.392	< 0.392	0 (1)	20
Arsenic	0.402	0.367	9 (1)	20
Beryllium	0.168	0.141	18 (1)	20
Cadmium	< 0.196	< 0.196	0 (1)	20
Chromium	5.18	5.30	2	20
Silver	< 0.196	< 0.196	0 (1)	20
Thallium	0.0431	< 0.196	200* (1)	20
Batch number: 160620637001B	Sample number(s): 8260969-8260971 BKG: P262914			
Selenium	< 0.784	< 0.784	0 (1)	20
Batch number: 160620638001	Sample number(s): 8260969-8260971 BKG: P262914			
Mercury	< 0.188	< 0.198	0 (1)	20
Batch number: 160630637002	Sample number(s): 8260973-8260978 BKG: P262937			
Aluminum	4292.78	2861.29	40*	20
Barium	18.69	14.06	28*	20
Calcium	199.38	171.82	15	20
Cobalt	1.70	1.27	29* (1)	20
Copper	3.49	7.44	72* (1)	20
Iron	5430.03	3982.94	31*	20
Lead	2.42	3.02	22* (1)	20
Magnesium	494.42	379.47	26*	20
Manganese	106.48	75.1	35*	20
Nickel	1.82	1.57	15 (1)	20
Potassium	449.12	338.78	28* (1)	20
Sodium	27.94	19.25	37* (1)	20
Titanium	228.34	176.28	26*	20
Vanadium	9.66	6.54	39*	20
Zinc	10.72	11.7	9 (1)	20
Batch number: 160630637002A	Sample number(s): 8260973-8260978 BKG: P262937			
Antimony	< 0.331	< 0.290	0 (1)	20
Arsenic	0.669	0.442	41* (1)	20
Beryllium	0.173	0.120	37* (1)	20
Cadmium	< 0.165	< 0.145	0 (1)	20
Chromium	5.68	4.89	15	20
Silver	< 0.165	< 0.145	0 (1)	20
Thallium	0.0555	0.0339	48* (1)	20
Batch number: 160630637002B	Sample number(s): 8260973-8260978 BKG: P262937			
Selenium	< 0.661	< 0.580	0 (1)	20
Batch number: 160630638001	Sample number(s): 8260973-8260978 BKG: P263710			
Mercury	2.65	3.23	20 (1)	20
	%	%		
Batch number: 16062820010A	Sample number(s): 8260955-8260963,8260970,8260973-8260977 BKG: 8260957, P260957			
Moisture	11.86	12.47	5	5
Moisture	11.86	12.47	5	5
Moisture Duplicate	11.86	12.47	5	5
Batch number: 16064820002A	Sample number(s): 8260978 BKG: 8260978			
Moisture	8.35	8.03	4	5

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Batch number: 16077820012A	Sample number(s): 8260950-8260954,8260964-8260966,8260968-8260969,8260971 BKG: 8260969			
Moisture	11.95	10.11	17*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Soil Master
Batch number: A160642AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260951	110	107	101	91
8260952	120	117	96	95
8260953	118	111	97	94
8260954	128	117	122	68
8260955	118	105	108	79
8260956	121	110	125	59
8260964	117	112	94	91
8260965	119	119	95	94
8260966	119	116	95	95
8260967	113	111	98	95
8260969	120	114	96	95
8260970	125	119	99	80
8260971	120	115	96	92
8260972	115	112	97	95
Blank	116	107	97	94
LCS	111	107	101	104
LCSD	110	104	100	103
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160671AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260961	104	103	110	77
Blank	104	107	98	93
LCS	100	103	101	100
LCSD	101	100	101	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160681AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260962	102	103	107	77
8260968	97	102	109	79
8260974	105	104	104	79
8260975	106	106	96	92
8260976	109	113	97	88
8260977	109	90	126	66

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635319
Reported: 03/18/2016 10:30

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260978	106	110	97	90
Blank	106	106	97	92
LCS	101	100	100	99
LCSD	101	100	101	100
MS	101	106	117	81
MSD	116	134	135	66
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160691AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260973	102	109	99	89
Blank	101	106	98	93
LCS	97	97	100	98
LCSD	96	100	101	98
MS	99	102	100	99
MSD	96	104	100	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160621AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8260950	74	78	73	73
8260957	85	81	82	74
8260958	80	78	77	72
8260959	91	86	89	84
8260963	79	78	77	72
Blank	107	106	106	97
LCS	103	101	102	103
LCSD	122	120	123	133*
MS	80	78	77	72
MSD	91	86	89	84
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 16064SLB026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260952	96	97	85	94	99	62
8260953	95	98	84	100	99	65
8260956	88	89	73	92	98	62
8260957	87	87	73	94	102	70
8260958	90	88	70	92	97	59
8260959	93	92	72	96	96	59
8260961	95	96	87	101	110	72
8260962	88	90	81	94	97	67
8260963	92	94	80	93	101	65
8260964	97	98	81	95	101	61
8260965	91	95	83	96	100	62
8260966	94	98	86	96	102	64
8260968	90	86	63	85	95	63

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
Blank	100	102	100	100	105	65
LCS	99	100	92	98	99	65
MS	90	88	70	92	97	59
MSD	93	92	72	96	96	59
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16064SLF026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260969	97	96	90	101	97	96
8260970	82	80	88	98	103	92
8260971	99	96	98	105	103	104
8260973	78	80	81	91	93	85
8260974	82	81	87	97	100	91
8260975	93	95	95	97	101	95
8260976	92	92	88	98	101	94
8260977	89	87	84	95	102	89
8260978	87	91	90	108	105	99
Blank	94	96	118	99	106	103
LCS	109	111	108	101	100	104
MS	84	93	116	111	103	96
MSD	77	78	84	85	92	107
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16068SLD026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8260950	93	88	103	81	103	96
8260951	108	105	113	105	109	105
8260954	113	102	98	89	114	104
8260955	87	83	96	100	106	89
Blank	96	92	129	96	98	94
LCS	108	104	123	99	98	101
MS	106	101	121	95	98	98
MSD	99	94	128	101	102	99
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: PCBs 8082A
Batch number: 160610026A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260950	116	117
8260951	100	159*
8260952	112	110
8260953	104	107
8260954	114	141
8260955	86	90
8260956	97	119
8260957	99	104
8260958	97	107
8260959	101	102

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

	Tetrachloro-m-xylene	Decachlorobiphenyl
Blank	108	103
LCS	106	105
MS	97	107
MSD	101	102
Limits:	53-140	45-143

Analysis Name: Nitroaromatics/Amines 8330B(s)
Batch number: 160620006A

	3,4-Dinitrotoluene
8260950	86
8260951	102
8260952	101
Blank	105
LCS	100
LCSD	100
MS	96
MSD	89
Limits:	62-133

Analysis Name: Nitroaromatics/Amines 8330B(s)
Batch number: 160620007A

	3,4-Dinitrotoluene
8260953	95
8260954	86
8260964	107
8260965	104
8260966	103
8260968	107
8260969	103
8260971	109
Blank	104
LCS	108
LCSD	101
MS	98
MSD	93
Limits:	62-133

Analysis Name: PCBs 8082A
Batch number: 160640019A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260961	73	80
8260963	110	131
8260964	91	99
8260965	112	105
8260966	110	107
8260968	92	98
8260969	109	108
8260970	70	80
8260971	107	103
8260973	132	153*

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260974	101	196*
8260975	110	102
8260976	101	108
8260977	101	131
8260978	108	130
Blank	111	108
LCS	112	109
MS	80	92
MSD	75	84
Limits:	53-140	45-143

Analysis Name: PCBs 8082A
Batch number: 160680020A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8260962	110	102
Blank	108	101
LCS	108	103
MS	103	223*
MSD	105	232*
Limits:	53-140	45-143

Analysis Name: Glycols in Soil
Batch number: 160630033A

	Tetramethylene glycol
8260950	75
8260951	70
8260952	64
8260953	74
8260954	74
8260955	62
8260956	64
8260957	70
8260958	103
8260959	103
8260961	61
8260962	60
8260963	58
8260964	59
8260965	59
Blank	76
LCS	114
MS	103
MSD	103
Limits:	52-115

Analysis Name: Glycols in Soil
Batch number: 160670008A

	Tetramethylene glycol
8260966	63
8260968	62

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/18/2016 10:30

Group Number: 1635319

	Tetramethylene glycol
8260969	52
8260970	46
8260971	52
8260973	50
8260974	51
8260975	52
8260976	50
8260977	51
8260978	51
Blank	61
LCS	116
MS	95
MSD	113
Limits:	36-143

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635319 Sample # 8260950-58 1 of 3

COC # 491593

Client Information

Client: 10302 Norfolk Southern Via Amec Foster Wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard / Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☑ No ☐

For Lab Use Only
FSC:
SCR#:

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Soil ☒	Ground	Potable	Surface	NPDES	Water	Other:	Total # of Containers	VOCs 8260C KIT (O)	BOD5 SO4 CA SO4 NO3 NO2 TOC (4C)	EXPLOSIVES 8330B (4C)	8015B Ethylene Glycol (4C)	VOCs by 8260C Trip Blank (O)	Remarks
MW-02-0-2-022516	2-25-16	12:30	✓			✓							6	✓	✓	✓	✓		Balance of Soil Samples (non-VOCs) in Cooler #C27321
MW-2-2-4-022516	2-25-16	13:00	✓			✓							6	✓	✓	✓	✓		
MW-02-6-8-022516	2-25-16	14:00	✓			✓							6	✓	✓	✓	✓		
MW-2-12-14-022516	2-25-16	14:45	✓			✓							6	✓	✓	✓	✓		
MW-Dup-03-022516	2-25-16	12:00	✓			✓							6	✓	✓	✓	✓		
SS-01-0-2-022516	2-25-16	10:00	✓			✓							5	✓	✓		✓		
SS-02-0-2-022516	2-25-16	10:30	✓			✓							5	✓	✓		✓		
SS-03-0-2-022516	2-25-16	11:00	✓			✓							5	✓	✓		✓		
SS-03-0-2-022516 MS	2-25-16	11:00	✓			✓							5	✓	✓		✓		
SS-03-0-2-022516 MSD	2-25-16	11:00	✓			✓							5	✓	✓		✓		

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Remarks: VOCs in Cooler C25843

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
James Gardner	2-25-16	19:45			
			Krista Abel	2/26/16	0930

EDD Required? Yes No
If yes, format: EQuIS

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.1 °C

3 Coolers
FEDEX #'s: 8091 6045 6711 8091 6045 6733 8091 6045 6722

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635319 Sample # 8760950-78 P.2 of 3

COC # 491594

Client Information

Client: 10302 Norfolk Southern Via Amec Foster wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard / Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☑ No ☐

For Lab Use Only
FSC:
SCR#:

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Soil	Ground	Potable	Surface	NPDES	Water	Other:	Total # of Containers	VOCs 8260C Kit (O)	PCBs 8082A 5 GASES 8270C methyl acetate (4°C)	Explosives 8330B (4°C)	8015B Ethylene Glycol (4°C)	VOCs 8260C Trip Blank (O)	Remarks
SS-04-0-2-022516	2-25-16	11:15	✓			✓							5	✓	✓		✓		Balance of Soil Samples (non-VOCs) in Cooler #C27321
SS-05-0-2-022516	2-25-16	11:30	✓			✓							5	✓	✓		✓		
SS-06-0-2-022516	2-25-16	17:00	✓			✓							5	✓	✓		✓		
MW-1-0-2-022516	2-25-16	15:00	✓			✓							6	✓	✓	✓	✓		
MW-1-6-8-022516	2-25-16	15:15	✓			✓							6	✓	✓	✓	✓		
MW-1-12-14-022516	2-25-16	15:30	✓			✓							6	✓	✓	✓	✓		
Trip Blank-022516A	2-25-16	17:15	✓					✓					1					✓	VOCs in Cooler #C22172
SB0-04-0-2-022516	2-25-16	16:45	✓			✓							6	✓	✓	✓	✓		
SB0-04-6-8-022516	2-25-16	17:00	✓			✓							6	✓	✓	✓	✓		
SS-Dup-2-022516	2-25-16	12:00	✓			✓							5	✓	✓		✓		

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Tanya T. Parker	2-25-16	19:45			
			Mateo Abel	2/26/16	0930

EDD Required? Yes No
If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.1 2.5 °C

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Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635319 Sample # 8260958-78 P: 3 of 3

COC # 491595

Client Information

Client: 10302 Norfolk Southern Via Amec Foster Wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard / Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☐ No ☐

Matrix: Sediment ☐ Soil ☒ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other:

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs 8260C Kit (0)	PCBs 8082A 5VOAs w/ 8270C metals % moist (4°)	Explosives 8330 (4°)	8015 Ethylene Glycol (4°)	VOCs 8260C Trip Blank (0)						Remarks
SBO-4-12-14-022516	2-25-16	17:15	✓		✓			6	✓	✓	✓	✓							Balance of Soil Samples (non-VOCs) in Cooler # C27321
TRIP BLANK-022516 B	2-25-16	17:30	✓			✓		1					✓						VOCs in Cooler # C22172
SS-14-0-2-022516	2-25-16	17:30	✓		✓			6	✓	✓		✓							
SS-16-0-2-022516	2-25-16	17:45	✓		✓			5	✓	✓		✓							
SS-17-0-2-022516	2-25-16	17:50	✓		✓			5	✓	✓		✓							
SS-18-0-2-022516	2-25-16	18:00	✓		✓			5	✓	✓		✓							
SS-19-0-2-022516	2-25-16	18:10	✓		✓			5	✓	✓		✓							
SS-20-0-2-022516	2-25-16	18:20	✓		✓			5	✓	✓		✓							

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: tanya.kinnard@amecfns.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Terrell Parker [signature]	2-25-16	19:45			
			[signature]	2/26/16	0930

EDD Required? Yes No

If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.1-2.8 °C

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1635319

Katherine Klinefelter

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Tuesday, March 01, 2016 2:11 PM
To: Katherine Klinefelter
Cc: Barker, Michelle; Mayila, Ferdinand K; Parker, Terrell; Kinnard, Tanya R
Subject: RE: 1635319-Former Cohn Property/Columbus, GA-02/26/2016 9:30:00 Acknowledgement
Attachments: 1635319c - revised.pdf; EAcknow_1635319_jah 3-01-16.xls

Kathy,
We revised some sample names on our COC for 1635319. See attached.
We **removed** the **"0"** from the two sample IDs listed below.

8260950	MW-02-0-2-022516 Grab Soil
8260952	MW-02-6-8-022516 Grab Soil

Also, I noticed the soil samples being analyzed for **explosives** did not have **% moisture** on them. We are getting dry weight results so should we be getting % moisture for these samples as well? Please correct the log-in or explain.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: USLAN-PXAdmin [mailto:USLAN-PXAdmin@lancasterlabs.com]
Sent: Tuesday, March 01, 2016 12:26 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>
Subject: 1635319-Former Cohn Property/Columbus, GA-02/26/2016 9:30:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

This is an automated message from an unmonitored address. Please do not reply to this address.

amec foster wheeler

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1635319

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Notify us here to report this email as spam.

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Sample Administration Receipt Documentation Log

Doc Log ID: 137622

Group Number(s): 1635319

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	02/26/2016 9:30
Number of Packages:	3	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): Sodium Bisulfate

Unpacked by Krista Abel (3058) at 14:59 on 02/26/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.1	DT	Wet	Y	Bagged	N
2	DT146	1.4	DT	Wet	Y	Bagged	N
3	DT146	2.8	DT	Wet	Y	Bagged	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
SS-06-02-022516	2/25/2016 12:30	

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: March 17, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 02/27/2016
Group Number: 1635589
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
SBO-02-0-2-022616 Grab Soil	8262907
SBO-02-2-4-022616 Grab Soil	8262908
SBO-02-6-8-022616 Grab Soil	8262909
SBO-02-12-14-022616 Grab Soil	8262910
SBO-03-0-2-022616 Grab Soil	8262911
SBO-03-2-4-022616 Grab Soil	8262912
SBO-03-6-8-022616 Grab Soil	8262913
SBO-03-12-14-022616 Grab Soil	8262914
SBO-03-12-14-022616MS Grab Soil	8262915
SBO-03-12-14-022616MSD Grab Soil	8262916
SBO-03-12-14-022616DUP Grab Soil	8262917
SBO-09-0-2-022616 Grab Soil	8262918
SBO-09-2-4-022616 Grab Soil	8262919
SBO-09-6-8-022616 Grab Soil	8262920
SBO-09-12-14-022616 Grab Soil	8262921
SBO-DUP-7-022616 Grab Soil	8262922
SBO-DUP-4-022616 Grab Soil	8262923
Trip_Blank-01-022616 Sodium Bisulfate	8262924
SBO-01-0-2-022616 Grab Soil	8262925
SBO-01-2-4-022616 Grab Soil	8262926
SBO-01-6-8-022616 Grab Soil	8262927

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Ferdinand Mayila
Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1635589

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8262926

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample #s: 8262908

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.
Reporting limits were raised due to interference from the sample matrix.

Sample #s: 8262907, 8262910, 8262911, 8262912, 8262913, 8262914, 8262915, 8262916, 8262920, 8262921, 8262922, 8262923, 8262924, 8262927

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample #s: 8262918

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
1,4-Dichlorobenzene-d4	-58
Internal Standard - Re-analysis	**% Recovery**
Fluorobenzene	-85
Chlorobenzene-d5	-87
1,4-Dichlorobenzene-d4	-91
tert-Butyl Alcohol-d10	-73

Sample #s: 8262925

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
Chlorobenzene-d5	-58
1,4-Dichlorobenzene-d4	-77
Internal Standard - Re-analysis	**% Recovery**
1,4-Dichlorobenzene-d4	-58

Sample #s: 8262919

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for the initial analysis.

Internal Standard - Initial Analysis	% Recovery
1,4-Dichlorobenzene-d4	-71

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

Batch #: A160681AA (Sample number(s): 8262909 UNSPK: P262180)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methyl Tertiary Butyl Ether, Cyclohexane, Methyl Acetate, Methylcyclohexane, Chloromethane, Vinyl Chloride, 1,1-Dichloroethene, Methylene Chloride, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Chloroform, Benzene, Toluene, 1,1,2-Trichloroethane, 1,2-Dibromoethane, Styrene, Bromoform, Isopropylbenzene, 1,1,2,2-Tetrachloroethane, 1,2-Dichlorobenzene, Acetone, Carbon Disulfide, 2-Butanone, trans-1,3-Dichloropropene, 4-Methyl-2-pentanone, 2-Hexanone, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2,4-Trichlorobenzene, Xylene (Total)

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Methyl Tertiary Butyl Ether, Methyl Acetate, Methylcyclohexane, Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Methylene Chloride, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, 1,2-Dichloroethane, 1,1,2-Trichloroethane, Tetrachloroethene, Isopropylbenzene, 1,1,2,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, Acetone, 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone

Batch #: A160692AA (Sample number(s): 8262925 UNSPK: P262937)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Cyclohexane

Batch #: R160621AA (Sample number(s): 8262926 UNSPK: P260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCSD

Batch #: R160633AA (Sample number(s): 8262908 UNSPK: P262196)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl Chloride, Tetrachloroethene, Freon 113

SW-846 8270D, GC/MS Semivolatiles

Sample #s: 8262918, 8262919, 8262925, 8262926

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 8262923

Reporting limits were raised due to interference from the sample matrix. The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect. The reported data is from the initial analysis of the sample.

Batch #: 16064SLI026 (Sample number(s): 8262907-8262913 UNSPK: P262196)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2,4,6-Trichlorophenol, Hexachlorocyclopentadiene, 2,4,5-Trichlorophenol

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Batch #: 160640033A (Sample number(s): 8262907-8262916, 8262918-8262922 UNSPK: 8262914)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8262911, 8262918

Batch #: 160660011A (Sample number(s): 8262923, 8262925-8262927 UNSPK: P262937)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8262925, 8262926

SW-846 6010C, Metals

Batch #: 160620637001 (Sample number(s): 8262907-8262923 UNSPK: 8262914 BKG: 8262914)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Copper

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Aluminum, Copper, Nickel

Batch #: 160630637002 (Sample number(s): 8262925-8262927 UNSPK: P262937 BKG: P262937)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Magnesium, Titanium

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Aluminum, Iron, Magnesium, Potassium, Sodium, Barium, Cobalt, Copper, Lead, Manganese, Titanium, Vanadium

SW-846 6020A, Metals

Sample #s: 8262911

Reporting limits were raised for metals due to interference from the sample matrix.

Batch #: 160620637001A (Sample number(s): 8262907-8262923 UNSPK: 8262914 BKG: 8262914)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Thallium

Batch #: 160630637002A (Sample number(s): 8262925-8262927 UNSPK: P262937 BKG: P262937)

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Antimony, Arsenic, Chromium

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Arsenic, Beryllium, Thallium

SW-846 7471B, Metals

Batch #: 160630638002 (Sample number(s): 8262925-8262927 UNSPK: P262937 BKG: P262937)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Mercury

SM 2540 G-1997, Wet Chemistry

Batch #: 16063820005A (Sample number(s): 8262907-8262917 BKG: 8262914)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture, Moisture, Moisture Duplicate

Sample Description: SBO-02-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262907
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:22 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	52	21	7	0.87
11995	Benzene	71-43-2	< 5	5	0.5	0.87
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.87
11995	Bromoform	75-25-2	< 5	5	1	0.87
11995	Bromomethane	74-83-9	< 5	5	2	0.87
11995	2-Butanone	78-93-3	< 10	10	4	0.87
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.87
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.87
11995	Chlorobenzene	108-90-7	< 5	5	1	0.87
11995	Chloroethane	75-00-3	< 5	5	2	0.87
11995	Chloroform	67-66-3	< 5	5	1	0.87
11995	Chloromethane	74-87-3	< 5	5	2	0.87
11995	Cyclohexane	110-82-7	< 5	5	1	0.87
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.87
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.87
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.87
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.87
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.87
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.87
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.87
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.87
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.87
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.87
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.87
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.87
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.87
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.87
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.87
11995	Ethylbenzene	100-41-4	< 5	5	1	0.87
11995	Freon 113	76-13-1	< 10	10	2	0.87
11995	2-Hexanone	591-78-6	< 10	10	3	0.87
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.87
11995	Methyl Acetate	79-20-9	< 5	5	2	0.87
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.87
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.87
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.87
11995	Methylene Chloride	75-09-2	< 5	5	2	0.87
11995	Styrene	100-42-5	< 5	5	1	0.87
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.87
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.87
11995	Toluene	108-88-3	< 5	5	1	0.87
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.87
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.87
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.87
11995	Trichloroethene	79-01-6	< 5	5	1	0.87
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.87
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.87
11995	Xylene (Total)	1330-20-7	22	5	1	0.87

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262907
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:22 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 200	200	39	10
10726	Acenaphthylene	208-96-8	< 200	200	39	10
10726	Acetophenone	98-86-2	< 390	390	190	10
10726	Anthracene	120-12-7	340	200	39	10
10726	Atrazine	1912-24-9	< 1,900	1,900	390	10
10726	Benzaldehyde	100-52-7	< 1,900	1,900	780	10
10726	Benzo(a)anthracene	56-55-3	2,500	200	39	10
10726	Benzo(a)pyrene	50-32-8	9,200	200	39	10
10726	Benzo(b)fluoranthene	205-99-2	12,000	200	39	10
10726	Benzo(g,h,i)perylene	191-24-2	8,100	200	39	10
10726	Benzo(k)fluoranthene	207-08-9	4,500	200	39	10
10726	1,1'-Biphenyl	92-52-4	< 390	390	190	10
10726	4-Bromophenyl-phenylether	101-55-3	< 390	390	190	10
10726	Butylbenzylphthalate	85-68-7	< 1,900	1,900	780	10
10726	Di-n-butylphthalate	84-74-2	< 1,900	1,900	780	10
10726	Caprolactam	105-60-2	< 1,900	1,900	390	10
10726	Carbazole	86-74-8	< 390	390	190	10
10726	4-Chloro-3-methylphenol	59-50-7	< 390	390	190	10
10726	4-Chloroaniline	106-47-8	< 780	780	390	10
10726	bis(2-Chloroethoxy)methane	111-91-1	< 390	390	190	10
10726	bis(2-Chloroethyl)ether	111-44-4	< 390	390	190	10
10726	2-Chloronaphthalene	91-58-7	< 390	390	78	10
10726	2-Chlorophenol	95-57-8	< 390	390	190	10
10726	4-Chlorophenyl-phenylether	7005-72-3	< 390	390	190	10
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 390	390	190	10
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	3,000	200	39	10
10726	Dibenz(a,h)anthracene	53-70-3	2,400	200	39	10
10726	Dibenzofuran	132-64-9	< 390	390	190	10
10726	3,3'-Dichlorobenzidine	91-94-1	< 3,900	3,900	1,200	10
10726	2,4-Dichlorophenol	120-83-2	< 390	390	190	10
10726	Diethylphthalate	84-66-2	< 1,900	1,900	780	10
10726	2,4-Dimethylphenol	105-67-9	< 390	390	190	10
10726	Dimethylphthalate	131-11-3	< 1,900	1,900	780	10
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 5,800	5,800	1,900	10
10726	2,4-Dinitrophenol	51-28-5	< 12,000	12,000	3,500	10
10726	2,4-Dinitrotoluene	121-14-2	< 1,900	1,900	780	10
10726	2,6-Dinitrotoluene	606-20-2	< 390	390	190	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	2,200	2,000	780	10
10726	Fluoranthene	206-44-0	3,100	200	39	10
10726	Fluorene	86-73-7	< 200	200	39	10
10726	Hexachlorobenzene	118-74-1	< 200	200	39	10
10726	Hexachlorobutadiene	87-68-3	< 390	390	190	10
10726	Hexachlorocyclopentadiene	77-47-4	< 5,800	5,800	1,900	10
10726	Hexachloroethane	67-72-1	< 1,900	1,900	390	10
10726	Indeno(1,2,3-cd)pyrene	193-39-5	7,900	200	39	10
10726	Isophorone	78-59-1	< 390	390	190	10
10726	2-Methylnaphthalene	91-57-6	< 200	200	39	10

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262907
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:22 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 390	390	190	10
10726	4-Methylphenol	106-44-5	< 390	390	190	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 200	200	39	10
10726	2-Nitroaniline	88-74-4	< 390	390	190	10
10726	3-Nitroaniline	99-09-2	< 1,900	1,900	780	10
10726	4-Nitroaniline	100-01-6	< 1,900	1,900	780	10
10726	Nitrobenzene	98-95-3	< 390	390	190	10
10726	2-Nitrophenol	88-75-5	< 390	390	190	10
10726	4-Nitrophenol	100-02-7	< 5,800	5,800	1,900	10
10726	N-Nitroso-di-n-propylamine	621-64-7	< 390	390	190	10
10726	N-Nitrosodiphenylamine	86-30-6	< 390	390	190	10
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 1,900	1,900	780	10
10726	Pentachlorophenol	87-86-5	< 2,000	2,000	390	10
10726	Phenanthrene	85-01-8	1,100	200	39	10
10726	Phenol	108-95-2	< 390	390	190	10
10726	Pyrene	129-00-0	2,700	200	39	10
10726	2,4,5-Trichlorophenol	95-95-4	< 390	390	190	10
10726	2,4,6-Trichlorophenol	88-06-2	< 390	390	190	10
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	46	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	46	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	46	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	46	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	46	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	46	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	920	1
13413	2-Nitrotoluene	88-72-2	< 140	140	46	1
13413	3-Nitrotoluene	99-08-1	< 140	140	46	1
13413	4-Nitrotoluene	99-99-0	< 140	140	46	1
13413	PETN	78-11-5	< 2,800	2,800	920	1
13413	RDX	121-82-4	< 140	140	46	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	46	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	46	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 990	990	210	50

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262907
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:22 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 990	990	270	50
10885	PCB-1232	11141-16-5	< 990	990	460	50
10885	PCB-1242	53469-21-9	< 990	990	190	50
10885	PCB-1248	12672-29-6	15,000	990	190	50
10885	PCB-1254	11097-69-1	11,000	990	190	50
10885	PCB-1260	11096-82-5	< 990	990	280	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.9	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	16,600	46.8	8.95	1
06946	Barium	7440-39-3	281	1.17	0.140	1
01650	Calcium	7440-70-2	10,800	46.8	3.89	1
06952	Cobalt	7440-48-4	14.2	1.17	0.0947	1
06953	Copper	7440-50-8	858	2.34	0.374	1
01654	Iron	7439-89-6	78,300	234	19.5	5
06955	Lead	7439-92-1	818	3.51	0.479	1
01657	Magnesium	7439-95-4	5,060	23.4	1.95	1
06958	Manganese	7439-96-5	813	1.17	0.140	1
06961	Nickel	7440-02-0	171	2.34	0.269	1
01662	Potassium	7440-09-7	4,110	117	19.6	1
01667	Sodium	7440-23-5	315	234	19.5	1
06970	Titanium	7440-32-6	1,180	2.34	0.433	1
06971	Vanadium	7440-62-2	48.7	1.17	0.269	1
06972	Zinc	7440-66-6	2,040	23.4	4.50	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	15.7	0.468	0.0772	2
06125	Arsenic	7440-38-2	10.5	0.935	0.175	2
06127	Beryllium	7440-41-7	0.356	0.234	0.0166	2
06128	Cadmium	7440-43-9	5.96	0.234	0.0538	2
06131	Chromium	7440-47-3	296	0.935	0.117	2
06141	Selenium	7782-49-2	< 0.935	0.935	0.117	2
06142	Silver	7440-22-4	1.27	0.234	0.0234	2
06145	Thallium	7440-28-0	< 0.234	0.234	0.0351	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.25	0.578	0.0289	2.5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	15.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-02-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262907
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

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Box 13
Atlanta GA 30309

CPS20

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 15:04	Jennifer K Howe	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 14:22	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 14:22	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016 14:22	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016 05:00	William H Saadeh	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLI026	03/06/2016 09:25	Olivia Arosemena	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016 20:32	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016 05:05	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016 09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016 14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016 02:44	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016 09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 01:06	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/07/2016 01:10	Matthew Machtinger	5
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 01:06	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016 01:06	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016 07:57	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/07/2016 01:10	Matthew Machtinger	5
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:21	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 17:18	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 17:18	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-02-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262907
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:22 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 17:18	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:21	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:18	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:18	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:18	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:16	Damary Valentin	2.5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262908
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:45 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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Atlanta GA 30309

CPS22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,400	1,400	490	61.44
11995	Benzene	71-43-2	< 350	350	35	61.44
11995	Bromodichloromethane	75-27-4	< 350	350	70	61.44
11995	Bromoform	75-25-2	< 350	350	70	61.44
11995	Bromomethane	74-83-9	< 350	350	140	61.44
11995	2-Butanone	78-93-3	< 700	700	280	61.44
11995	Carbon Disulfide	75-15-0	< 350	350	70	61.44
11995	Carbon Tetrachloride	56-23-5	< 350	350	70	61.44
11995	Chlorobenzene	108-90-7	< 350	350	70	61.44
11995	Chloroethane	75-00-3	< 350	350	140	61.44
11995	Chloroform	67-66-3	< 350	350	70	61.44
11995	Chloromethane	74-87-3	< 350	350	140	61.44
11995	Cyclohexane	110-82-7	370	350	70	61.44
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 350	350	140	61.44
11995	Dibromochloromethane	124-48-1	< 350	350	70	61.44
11995	1,2-Dibromoethane	106-93-4	< 350	350	70	61.44
11995	1,2-Dichlorobenzene	95-50-1	< 350	350	70	61.44
11995	1,3-Dichlorobenzene	541-73-1	< 350	350	70	61.44
11995	1,4-Dichlorobenzene	106-46-7	< 350	350	70	61.44
11995	Dichlorodifluoromethane	75-71-8	< 350	350	140	61.44
11995	1,1-Dichloroethane	75-34-3	< 350	350	70	61.44
11995	1,2-Dichloroethane	107-06-2	< 350	350	70	61.44
11995	1,1-Dichloroethene	75-35-4	< 350	350	70	61.44
11995	cis-1,2-Dichloroethene	156-59-2	< 350	350	70	61.44
11995	trans-1,2-Dichloroethene	156-60-5	< 350	350	70	61.44
11995	1,2-Dichloropropane	78-87-5	< 350	350	70	61.44
11995	cis-1,3-Dichloropropene	10061-01-5	< 350	350	70	61.44
11995	trans-1,3-Dichloropropene	10061-02-6	< 350	350	70	61.44
11995	Ethylbenzene	100-41-4	< 350	350	70	61.44
11995	Freon 113	76-13-1	< 700	700	140	61.44
11995	2-Hexanone	591-78-6	< 700	700	210	61.44
11995	Isopropylbenzene	98-82-8	< 350	350	70	61.44
11995	Methyl Acetate	79-20-9	< 350	350	140	61.44
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 350	350	35	61.44
11995	4-Methyl-2-pentanone	108-10-1	< 700	700	210	61.44
11995	Methylcyclohexane	108-87-2	1,000	350	70	61.44
11995	Methylene Chloride	75-09-2	< 350	350	140	61.44
11995	Styrene	100-42-5	< 350	350	70	61.44
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 350	350	70	61.44
11995	Tetrachloroethene	127-18-4	< 350	350	70	61.44
11995	Toluene	108-88-3	970	350	70	61.44
11995	1,2,4-Trichlorobenzene	120-82-1	< 350	350	70	61.44
11995	1,1,1-Trichloroethane	71-55-6	< 350	350	70	61.44
11995	1,1,2-Trichloroethane	79-00-5	< 350	350	70	61.44
11995	Trichloroethene	79-01-6	< 350	350	70	61.44
11995	Trichlorofluoromethane	75-69-4	< 350	350	140	61.44
11995	Vinyl Chloride	75-01-4	< 350	350	70	61.44
11995	Xylene (Total)	1330-20-7	1,100	350	70	61.44

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

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Sample Description: SBO-02-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262908
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:45 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS22

the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Reporting limits were raised due to interference from the sample matrix.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 190	190	38	10
10726	Acenaphthylene	208-96-8	< 190	190	38	10
10726	Acetophenone	98-86-2	< 380	380	190	10
10726	Anthracene	120-12-7	520	190	38	10
10726	Atrazine	1912-24-9	< 1,900	1,900	380	10
10726	Benzaldehyde	100-52-7	< 1,900	1,900	750	10
10726	Benzo(a)anthracene	56-55-3	1,800	190	38	10
10726	Benzo(a)pyrene	50-32-8	1,700	190	38	10
10726	Benzo(b)fluoranthene	205-99-2	2,500	190	38	10
10726	Benzo(g,h,i)perylene	191-24-2	1,300	190	38	10
10726	Benzo(k)fluoranthene	207-08-9	1,100	190	38	10
10726	1,1'-Biphenyl	92-52-4	< 380	380	190	10
10726	4-Bromophenyl-phenylether	101-55-3	< 380	380	190	10
10726	Butylbenzylphthalate	85-68-7	< 1,900	1,900	750	10
10726	Di-n-butylphthalate	84-74-2	< 1,900	1,900	750	10
10726	Caprolactam	105-60-2	< 1,900	1,900	380	10
10726	Carbazole	86-74-8	< 380	380	190	10
10726	4-Chloro-3-methylphenol	59-50-7	< 380	380	190	10
10726	4-Chloroaniline	106-47-8	< 750	750	380	10
10726	bis(2-Chloroethoxy)methane	111-91-1	< 380	380	190	10
10726	bis(2-Chloroethyl)ether	111-44-4	< 380	380	190	10
10726	2-Chloronaphthalene	91-58-7	< 370	370	75	10
10726	2-Chlorophenol	95-57-8	< 380	380	190	10
10726	4-Chlorophenyl-phenylether	7005-72-3	< 380	380	190	10
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 380	380	190	10
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	2,000	190	38	10
10726	Dibenz(a,h)anthracene	53-70-3	360	190	38	10
10726	Dibenzofuran	132-64-9	< 380	380	190	10
10726	3,3'-Dichlorobenzidine	91-94-1	< 3,800	3,800	1,100	10
10726	2,4-Dichlorophenol	120-83-2	< 380	380	190	10
10726	Diethylphthalate	84-66-2	< 1,900	1,900	750	10
10726	2,4-Dimethylphenol	105-67-9	< 380	380	190	10
10726	Dimethylphthalate	131-11-3	< 1,900	1,900	750	10
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 5,600	5,600	1,900	10
10726	2,4-Dinitrophenol	51-28-5	< 11,000	11,000	3,400	10
10726	2,4-Dinitrotoluene	121-14-2	< 1,900	1,900	750	10
10726	2,6-Dinitrotoluene	606-20-2	< 380	380	190	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	73,000	19,000	7,500	100
10726	Fluoranthene	206-44-0	3,500	190	38	10

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262908
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:45 by TK

Submitted: 02/27/2016 09:50
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Fluorene	86-73-7	< 190	190	38	10
10726	Hexachlorobenzene	118-74-1	< 190	190	38	10
10726	Hexachlorobutadiene	87-68-3	< 380	380	190	10
10726	Hexachlorocyclopentadiene	77-47-4	< 5,600	5,600	1,900	10
10726	Hexachloroethane	67-72-1	< 1,900	1,900	380	10
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,200	190	38	10
10726	Isophorone	78-59-1	< 380	380	190	10
10726	2-Methylnaphthalene	91-57-6	300	190	38	10
10726	2-Methylphenol	95-48-7	< 380	380	190	10
10726	4-Methylphenol	106-44-5	< 380	380	190	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	220	190	38	10
10726	2-Nitroaniline	88-74-4	< 380	380	190	10
10726	3-Nitroaniline	99-09-2	< 1,900	1,900	750	10
10726	4-Nitroaniline	100-01-6	< 1,900	1,900	750	10
10726	Nitrobenzene	98-95-3	< 380	380	190	10
10726	2-Nitrophenol	88-75-5	< 380	380	190	10
10726	4-Nitrophenol	100-02-7	< 5,600	5,600	1,900	10
10726	N-Nitroso-di-n-propylamine	621-64-7	< 380	380	190	10
10726	N-Nitrosodiphenylamine	86-30-6	< 380	380	190	10
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 1,900	1,900	750	10
10726	Pentachlorophenol	87-86-5	< 1,900	1,900	380	10
10726	Phenanthrene	85-01-8	1,700	190	38	10
10726	Phenol	108-95-2	890	380	190	10
10726	Pyrene	129-00-0	3,000	190	38	10
10726	2,4,5-Trichlorophenol	95-95-4	< 380	380	190	10
10726	2,4,6-Trichlorophenol	88-06-2	< 380	380	190	10
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	870	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,600	2,600	870	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262908
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:45 by TK

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 960	960	200	50
10885	PCB-1221	11104-28-2	< 960	960	260	50
10885	PCB-1232	11141-16-5	< 960	960	450	50
10885	PCB-1242	53469-21-9	< 960	960	190	50
10885	PCB-1248	12672-29-6	12,000	960	190	50
10885	PCB-1254	11097-69-1	9,600	960	190	50
10885	PCB-1260	11096-82-5	< 960	960	280	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,700	44.2	8.47	1
06946	Barium	7440-39-3	232	1.11	0.133	1
01650	Calcium	7440-70-2	8,620	44.2	3.68	1
06952	Cobalt	7440-48-4	11.1	1.11	0.0896	1
06953	Copper	7440-50-8	387	2.21	0.354	1
01654	Iron	7439-89-6	62,700	221	18.4	5
06955	Lead	7439-92-1	609	3.32	0.453	1
01657	Magnesium	7439-95-4	1,840	22.1	1.85	1
06958	Manganese	7439-96-5	581	1.11	0.133	1
06961	Nickel	7440-02-0	828	2.21	0.254	1
01662	Potassium	7440-09-7	1,230	111	18.6	1
01667	Sodium	7440-23-5	298	221	18.5	1
06970	Titanium	7440-32-6	600	2.21	0.409	1
06971	Vanadium	7440-62-2	29.3	1.11	0.254	1
06972	Zinc	7440-66-6	1,320	22.1	4.26	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	32.4	0.442	0.0730	2
06125	Arsenic	7440-38-2	195	0.885	0.166	2
06127	Beryllium	7440-41-7	0.575	0.221	0.0157	2
06128	Cadmium	7440-43-9	4.39	0.221	0.0509	2
06131	Chromium	7440-47-3	150	0.885	0.111	2
06141	Selenium	7782-49-2	< 0.885	0.885	0.111	2
06142	Silver	7440-22-4	0.727	0.221	0.0221	2
06145	Thallium	7440-28-0	0.657	0.221	0.0332	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.631	0.218	0.0109	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262908
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:45 by TK

Submitted: 02/27/2016 09:50
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Box 13
Atlanta GA 30309

CPS22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	12.2	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160633AA	03/04/2016 01:54	Kevin A Sposito	61.44
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 14:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 14:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016 14:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016 05:27	William H Saadeh	10
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016 16:27	William H Saadeh	100
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLI026	03/06/2016 09:25	Olivia Arosemena	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016 21:09	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016 05:16	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016 09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016 14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016 03:02	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016 09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 01:13	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/07/2016 01:16	Matthew Machtinger	5
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 01:13	Matthew Machtinger	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-02-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262908
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 14:45 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS22

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016 08:01	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/07/2016 01:16	Matthew Machtinger	5
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:23	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 17:21	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 17:21	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 17:21	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:23	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:21	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:21	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:21	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:47	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262909
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS26

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 17	17	6	0.77
11995	Benzene	71-43-2	< 4	4	0.4	0.77
11995	Bromodichloromethane	75-27-4	< 4	4	0.9	0.77
11995	Bromoform	75-25-2	< 4	4	0.9	0.77
11995	Bromomethane	74-83-9	< 4	4	2	0.77
11995	2-Butanone	78-93-3	< 9	9	3	0.77
11995	Carbon Disulfide	75-15-0	< 4	4	0.9	0.77
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.9	0.77
11995	Chlorobenzene	108-90-7	< 4	4	0.9	0.77
11995	Chloroethane	75-00-3	< 4	4	2	0.77
11995	Chloroform	67-66-3	< 4	4	0.9	0.77
11995	Chloromethane	74-87-3	< 4	4	2	0.77
11995	Cyclohexane	110-82-7	< 4	4	0.9	0.77
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.77
11995	Dibromochloromethane	124-48-1	< 4	4	0.9	0.77
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.9	0.77
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.9	0.77
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.9	0.77
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.9	0.77
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.77
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.9	0.77
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.9	0.77
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.9	0.77
11995	cis-1,2-Dichloroethene	156-59-2	< 4	4	0.9	0.77
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.9	0.77
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.9	0.77
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.9	0.77
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.9	0.77
11995	Ethylbenzene	100-41-4	< 4	4	0.9	0.77
11995	Freon 113	76-13-1	< 9	9	2	0.77
11995	2-Hexanone	591-78-6	< 9	9	3	0.77
11995	Isopropylbenzene	98-82-8	< 4	4	0.9	0.77
11995	Methyl Acetate	79-20-9	< 4	4	2	0.77
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 4	4	0.4	0.77
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.77
11995	Methylcyclohexane	108-87-2	< 4	4	0.9	0.77
11995	Methylene Chloride	75-09-2	< 4	4	2	0.77
11995	Styrene	100-42-5	< 4	4	0.9	0.77
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.9	0.77
11995	Tetrachloroethene	127-18-4	< 4	4	0.9	0.77
11995	Toluene	108-88-3	< 4	4	0.9	0.77
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.9	0.77
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.9	0.77
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.9	0.77
11995	Trichloroethene	79-01-6	< 4	4	0.9	0.77
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.77
11995	Vinyl Chloride	75-01-4	< 4	4	0.9	0.77
11995	Xylene (Total)	1330-20-7	< 4	4	0.9	0.77
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262909
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS26

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	75	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	75	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	75	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 75	75	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 37	37	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 38	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	75	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	75	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 570	570	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	75	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	75	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 570	570	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1
10726	2-Methylphenol	95-48-7	< 38	38	19	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262909
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS26

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	75	1
10726	4-Nitroaniline	100-01-6	< 190	190	75	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 570	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	75	1
10726	Pentachlorophenol	87-86-5	< 190	190	38	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	900	1
13413	2-Nitrotoluene	88-72-2	< 130	130	45	1
13413	3-Nitrotoluene	99-08-1	< 130	130	45	1
13413	4-Nitrotoluene	99-99-0	< 130	130	45	1
13413	PETN	78-11-5	< 2,700	2,700	900	1
13413	RDX	121-82-4	< 130	130	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1
10885	PCB-1221	11104-28-2	< 19	19	5.2	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-02-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262909
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS26

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 19	19	9.1	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	< 19	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.6	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	26,400	44.7	8.55	1
06946	Barium	7440-39-3	86.4	1.12	0.134	1
01650	Calcium	7440-70-2	463	44.7	3.72	1
06952	Cobalt	7440-48-4	8.32	1.12	0.0904	1
06953	Copper	7440-50-8	31.1	2.23	0.357	1
01654	Iron	7439-89-6	23,300	44.7	3.72	1
06955	Lead	7439-92-1	8.15	3.35	0.458	1
01657	Magnesium	7439-95-4	2,710	22.3	1.86	1
06958	Manganese	7439-96-5	248	1.12	0.134	1
06961	Nickel	7440-02-0	9.83	2.23	0.257	1
01662	Potassium	7440-09-7	2,230	112	18.8	1
01667	Sodium	7440-23-5	< 223	223	18.6	1
06970	Titanium	7440-32-6	1,310	2.23	0.413	1
06971	Vanadium	7440-62-2	49.6	1.12	0.257	1
06972	Zinc	7440-66-6	41.6	4.47	0.860	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.447	0.447	0.0737	2
06125	Arsenic	7440-38-2	7.21	0.893	0.167	2
06127	Beryllium	7440-41-7	0.865	0.223	0.0159	2
06128	Cadmium	7440-43-9	< 0.223	0.223	0.0514	2
06131	Chromium	7440-47-3	22.6	0.893	0.112	2
06141	Selenium	7782-49-2	< 0.893	0.893	0.112	2
06142	Silver	7440-22-4	< 0.223	0.223	0.0223	2
06145	Thallium	7440-28-0	0.283	0.223	0.0335	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.225	0.225	0.0113	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-02-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262909
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS26

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160681AA	03/08/2016	11:36	Angela D Sneeringer	0.77
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	15:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	15:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	15:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016	05:55	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLI026	03/06/2016	09:25	Olivia Arosemena	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	22:59	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	05:28	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	05:09	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	01:19	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	01:19	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016	01:19	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	08:04	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:25	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:24	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:24	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:24	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262909
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:25	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:24	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:24	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:24	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:49	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262910
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS21

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 20	20	7	0.93
11995	Benzene	71-43-2	< 5	5	0.5	0.93
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.93
11995	Bromoform	75-25-2	< 5	5	1	0.93
11995	Bromomethane	74-83-9	< 5	5	2	0.93
11995	2-Butanone	78-93-3	< 10	10	4	0.93
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.93
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.93
11995	Chlorobenzene	108-90-7	< 5	5	1	0.93
11995	Chloroethane	75-00-3	< 5	5	2	0.93
11995	Chloroform	67-66-3	< 5	5	1	0.93
11995	Chloromethane	74-87-3	< 5	5	2	0.93
11995	Cyclohexane	110-82-7	< 5	5	1	0.93
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.93
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.93
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.93
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.93
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.93
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.93
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.93
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.93
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.93
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.93
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.93
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.93
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.93
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.93
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.93
11995	Ethylbenzene	100-41-4	< 5	5	1	0.93
11995	Freon 113	76-13-1	< 10	10	2	0.93
11995	2-Hexanone	591-78-6	< 10	10	3	0.93
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.93
11995	Methyl Acetate	79-20-9	< 5	5	2	0.93
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.93
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.93
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.93
11995	Methylene Chloride	75-09-2	< 5	5	2	0.93
11995	Styrene	100-42-5	< 5	5	1	0.93
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.93
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.93
11995	Toluene	108-88-3	< 5	5	1	0.93
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.93
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.93
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.93
11995	Trichloroethene	79-01-6	< 5	5	1	0.93
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.93
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.93
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.93

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262910
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	3	1
10726	Acenaphthylene	208-96-8	< 18	18	3	1
10726	Acetophenone	98-86-2	< 35	35	17	1
10726	Anthracene	120-12-7	< 18	18	3	1
10726	Atrazine	1912-24-9	< 170	170	35	1
10726	Benzaldehyde	100-52-7	< 170	170	69	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	3	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	3	1
10726	1,1'-Biphenyl	92-52-4	< 35	35	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 35	35	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	69	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	69	1
10726	Caprolactam	105-60-2	< 170	170	35	1
10726	Carbazole	86-74-8	< 35	35	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 35	35	17	1
10726	4-Chloroaniline	106-47-8	< 69	69	35	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 35	35	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 35	35	17	1
10726	2-Chloronaphthalene	91-58-7	< 34	34	7	1
10726	2-Chlorophenol	95-57-8	< 35	35	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 35	35	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 35	35	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	3	1
10726	Dibenzofuran	132-64-9	< 35	35	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 350	350	100	1
10726	2,4-Dichlorophenol	120-83-2	< 35	35	17	1
10726	Diethylphthalate	84-66-2	< 170	170	69	1
10726	2,4-Dimethylphenol	105-67-9	< 35	35	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	69	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 520	520	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	310	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	69	1
10726	2,6-Dinitrotoluene	606-20-2	< 35	35	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	69	1
10726	Fluoranthene	206-44-0	< 18	18	3	1
10726	Fluorene	86-73-7	< 18	18	3	1
10726	Hexachlorobenzene	118-74-1	< 18	18	3	1
10726	Hexachlorobutadiene	87-68-3	< 35	35	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 520	520	170	1
10726	Hexachloroethane	67-72-1	< 170	170	35	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	3	1
10726	Isophorone	78-59-1	< 35	35	17	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262910
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS21

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 35	35	17	1
10726	4-Methylphenol	106-44-5	< 35	35	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	3	1
10726	2-Nitroaniline	88-74-4	< 35	35	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	69	1
10726	4-Nitroaniline	100-01-6	< 170	170	69	1
10726	Nitrobenzene	98-95-3	< 35	35	17	1
10726	2-Nitrophenol	88-75-5	< 35	35	17	1
10726	4-Nitrophenol	100-02-7	< 520	520	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 35	35	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 35	35	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	69	1
10726	Pentachlorophenol	87-86-5	< 180	180	35	1
10726	Phenanthrene	85-01-8	< 18	18	3	1
10726	Phenol	108-95-2	< 35	35	17	1
10726	Pyrene	129-00-0	< 18	18	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 35	35	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 35	35	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	810	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,400	2,400	810	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.7	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262910
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS21

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 18	18	4.8	1
10885	PCB-1232	11141-16-5	< 18	18	8.3	1
10885	PCB-1242	53469-21-9	< 18	18	3.4	1
10885	PCB-1248	12672-29-6	< 18	18	3.4	1
10885	PCB-1254	11097-69-1	< 18	18	3.4	1
10885	PCB-1260	11096-82-5	< 18	18	5.1	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.2	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	6,120	41.6	7.96	1
06946	Barium	7440-39-3	24.7	1.04	0.125	1
01650	Calcium	7440-70-2	209	41.6	3.46	1
06952	Cobalt	7440-48-4	2.23	1.04	0.0842	1
06953	Copper	7440-50-8	9.36	2.08	0.332	1
01654	Iron	7439-89-6	6,420	41.6	3.46	1
06955	Lead	7439-92-1	< 3.12	3.12	0.426	1
01657	Magnesium	7439-95-4	689	20.8	1.74	1
06958	Manganese	7439-96-5	130	1.04	0.125	1
06961	Nickel	7440-02-0	2.18	2.08	0.239	1
01662	Potassium	7440-09-7	524	104	17.5	1
01667	Sodium	7440-23-5	< 208	208	17.4	1
06970	Titanium	7440-32-6	406	2.08	0.384	1
06971	Vanadium	7440-62-2	13.9	1.04	0.239	1
06972	Zinc	7440-66-6	10.1	4.16	0.800	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.416	0.416	0.0686	2
06125	Arsenic	7440-38-2	< 0.831	0.831	0.156	2
06127	Beryllium	7440-41-7	0.226	0.208	0.0148	2
06128	Cadmium	7440-43-9	< 0.208	0.208	0.0478	2
06131	Chromium	7440-47-3	6.01	0.831	0.104	2
06141	Selenium	7782-49-2	< 0.831	0.831	0.104	2
06142	Silver	7440-22-4	< 0.208	0.208	0.0208	2
06145	Thallium	7440-28-0	< 0.208	0.208	0.0312	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.196	0.196	0.0098	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-02-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262910
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS21

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	09:49	Jennifer K Howe	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	15:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	15:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	15:20	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016	06:22	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLI026	03/06/2016	09:25	Olivia Arosemena	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/05/2016	23:36	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/10/2016	17:02	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	05:27	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	01:26	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	01:26	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/08/2016	19:09	Suzanne M Will	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	08:08	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:27	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:27	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:27	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:27	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:27	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016	17:27	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-02-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262910
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:27	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:27	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:51	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262911
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:35 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	54	23	8	0.94
11995	Benzene	71-43-2	< 6	6	0.6	0.94
11995	Bromodichloromethane	75-27-4	< 6	6	1	0.94
11995	Bromoform	75-25-2	< 6	6	1	0.94
11995	Bromomethane	74-83-9	< 6	6	2	0.94
11995	2-Butanone	78-93-3	< 11	11	5	0.94
11995	Carbon Disulfide	75-15-0	< 6	6	1	0.94
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	0.94
11995	Chlorobenzene	108-90-7	< 6	6	1	0.94
11995	Chloroethane	75-00-3	< 6	6	2	0.94
11995	Chloroform	67-66-3	< 6	6	1	0.94
11995	Chloromethane	74-87-3	< 6	6	2	0.94
11995	Cyclohexane	110-82-7	< 6	6	1	0.94
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	0.94
11995	Dibromochloromethane	124-48-1	< 6	6	1	0.94
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	0.94
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	0.94
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	0.94
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	0.94
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	0.94
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	0.94
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	0.94
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	0.94
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	0.94
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	0.94
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	0.94
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	0.94
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	0.94
11995	Ethylbenzene	100-41-4	< 6	6	1	0.94
11995	Freon 113	76-13-1	< 11	11	2	0.94
11995	2-Hexanone	591-78-6	< 11	11	3	0.94
11995	Isopropylbenzene	98-82-8	< 6	6	1	0.94
11995	Methyl Acetate	79-20-9	< 6	6	2	0.94
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	0.94
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.94
11995	Methylcyclohexane	108-87-2	< 6	6	1	0.94
11995	Methylene Chloride	75-09-2	6	6	2	0.94
11995	Styrene	100-42-5	< 6	6	1	0.94
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	0.94
11995	Tetrachloroethene	127-18-4	< 6	6	1	0.94
11995	Toluene	108-88-3	< 6	6	1	0.94
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	0.94
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	0.94
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	0.94
11995	Trichloroethene	79-01-6	< 6	6	1	0.94
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	0.94
11995	Vinyl Chloride	75-01-4	< 6	6	1	0.94
11995	Xylene (Total)	1330-20-7	< 6	6	1	0.94

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262911
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:35 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 210	210	40	10
10726	Acenaphthylene	208-96-8	< 210	210	40	10
10726	Acetophenone	98-86-2	< 410	410	200	10
10726	Anthracene	120-12-7	490	210	40	10
10726	Atrazine	1912-24-9	< 2,000	2,000	410	10
10726	Benzaldehyde	100-52-7	< 2,000	2,000	810	10
10726	Benzo(a)anthracene	56-55-3	1,600	210	40	10
10726	Benzo(a)pyrene	50-32-8	1,700	210	40	10
10726	Benzo(b)fluoranthene	205-99-2	2,400	210	40	10
10726	Benzo(g,h,i)perylene	191-24-2	1,600	210	40	10
10726	Benzo(k)fluoranthene	207-08-9	1,000	210	40	10
10726	1,1'-Biphenyl	92-52-4	< 410	410	200	10
10726	4-Bromophenyl-phenylether	101-55-3	< 410	410	200	10
10726	Butylbenzylphthalate	85-68-7	< 2,000	2,000	810	10
10726	Di-n-butylphthalate	84-74-2	< 2,000	2,000	810	10
10726	Caprolactam	105-60-2	< 2,000	2,000	410	10
10726	Carbazole	86-74-8	< 410	410	200	10
10726	4-Chloro-3-methylphenol	59-50-7	< 410	410	200	10
10726	4-Chloroaniline	106-47-8	< 810	810	410	10
10726	bis(2-Chloroethoxy)methane	111-91-1	< 410	410	200	10
10726	bis(2-Chloroethyl)ether	111-44-4	< 410	410	200	10
10726	2-Chloronaphthalene	91-58-7	< 400	400	81	10
10726	2-Chlorophenol	95-57-8	< 410	410	200	10
10726	4-Chlorophenyl-phenylether	7005-72-3	< 410	410	200	10
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 410	410	200	10
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,600	210	40	10
10726	Dibenz(a,h)anthracene	53-70-3	290	210	40	10
10726	Dibenzofuran	132-64-9	< 410	410	200	10
10726	3,3'-Dichlorobenzidine	91-94-1	< 4,100	4,100	1,200	10
10726	2,4-Dichlorophenol	120-83-2	< 410	410	200	10
10726	Diethylphthalate	84-66-2	< 2,000	2,000	810	10
10726	2,4-Dimethylphenol	105-67-9	< 410	410	200	10
10726	Dimethylphthalate	131-11-3	< 2,000	2,000	810	10
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 6,100	6,100	2,000	10
10726	2,4-Dinitrophenol	51-28-5	< 12,000	12,000	3,600	10
10726	2,4-Dinitrotoluene	121-14-2	< 2,000	2,000	810	10
10726	2,6-Dinitrotoluene	606-20-2	< 410	410	200	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 2,100	2,100	810	10
10726	Fluoranthene	206-44-0	3,000	210	40	10
10726	Fluorene	86-73-7	< 210	210	40	10
10726	Hexachlorobenzene	118-74-1	< 210	210	40	10
10726	Hexachlorobutadiene	87-68-3	< 410	410	200	10
10726	Hexachlorocyclopentadiene	77-47-4	< 6,100	6,100	2,000	10
10726	Hexachloroethane	67-72-1	< 2,000	2,000	410	10
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,400	210	40	10
10726	Isophorone	78-59-1	< 410	410	200	10
10726	2-Methylnaphthalene	91-57-6	< 210	210	40	10

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262911
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:35 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 410	410	200	10
10726	4-Methylphenol	106-44-5	< 410	410	200	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 210	210	40	10
10726	2-Nitroaniline	88-74-4	< 410	410	200	10
10726	3-Nitroaniline	99-09-2	< 2,000	2,000	810	10
10726	4-Nitroaniline	100-01-6	< 2,000	2,000	810	10
10726	Nitrobenzene	98-95-3	< 410	410	200	10
10726	2-Nitrophenol	88-75-5	< 410	410	200	10
10726	4-Nitrophenol	100-02-7	< 6,100	6,100	2,000	10
10726	N-Nitroso-di-n-propylamine	621-64-7	< 410	410	200	10
10726	N-Nitrosodiphenylamine	86-30-6	< 410	410	200	10
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 2,000	2,000	810	10
10726	Pentachlorophenol	87-86-5	< 2,100	2,100	410	10
10726	Phenanthrene	85-01-8	1,600	210	40	10
10726	Phenol	108-95-2	< 410	410	200	10
10726	Pyrene	129-00-0	2,400	210	40	10
10726	2,4,5-Trichlorophenol	95-95-4	< 410	410	200	10
10726	2,4,6-Trichlorophenol	88-06-2	< 410	410	200	10
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	48	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	48	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 360	360	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 360	360	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	48	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	48	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	48	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	48	1
13413	HMX	2691-41-0	< 360	360	120	1
13413	Nitrobenzene	98-95-3	< 360	360	120	1
13413	Nitroglycerin	55-63-0	< 2,900	2,900	960	1
13413	2-Nitrotoluene	88-72-2	< 140	140	48	1
13413	3-Nitrotoluene	99-08-1	< 140	140	48	1
13413	4-Nitrotoluene	99-99-0	< 140	140	48	1
13413	PETN	78-11-5	< 2,900	2,900	960	1
13413	RDX	121-82-4	< 140	140	48	1
13413	Tetryl	479-45-8	< 360	360	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	48	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	48	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,000	1,000	220	50

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262911
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:35 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 1,000	1,000	280	50
10885	PCB-1232	11141-16-5	< 1,000	1,000	480	50
10885	PCB-1242	53469-21-9	< 1,000	1,000	200	50
10885	PCB-1248	12672-29-6	9,700	1,000	200	50
10885	PCB-1254	11097-69-1	3,900	1,000	200	50
10885	PCB-1260	11096-82-5	< 1,000	1,000	300	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	21,600	48.2	9.24	1
06946	Barium	7440-39-3	502	1.21	0.145	1
01650	Calcium	7440-70-2	23,900	48.2	4.02	1
06952	Cobalt	7440-48-4	15.5	1.21	0.0977	1
06953	Copper	7440-50-8	760	2.41	0.386	1
01654	Iron	7439-89-6	97,600	482	40.2	10
06955	Lead	7439-92-1	878	3.62	0.494	1
01657	Magnesium	7439-95-4	10,400	24.1	2.01	1
06958	Manganese	7439-96-5	1,050	1.21	0.145	1
06961	Nickel	7440-02-0	249	2.41	0.277	1
01662	Potassium	7440-09-7	1,730	121	20.3	1
01667	Sodium	7440-23-5	1,120	241	20.1	1
06970	Titanium	7440-32-6	655	2.41	0.446	1
06971	Vanadium	7440-62-2	49.1	1.21	0.277	1
06972	Zinc	7440-66-6	8,210	48.2	9.29	10
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	13.6	0.482	0.0796	2
06125	Arsenic	7440-38-2	17.2	0.965	0.181	2
06127	Beryllium	7440-41-7	0.427	0.241	0.0171	2
06128	Cadmium	7440-43-9	8.70	0.241	0.0555	2
06131	Chromium	7440-47-3	2,100	9.65	1.21	20
06141	Selenium	7782-49-2	< 0.965	0.965	0.121	2
06142	Silver	7440-22-4	1.21	0.241	0.0241	2
06145	Thallium	7440-28-0	< 2.41	2.41	0.362	20
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.37	1.16	0.0582	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	17.9	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262911
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:35 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS30

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 13:11	Jennifer K Howe	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 15:35	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 15:35	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016 15:35	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016 06:49	William H Saadeh	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLI026	03/06/2016 09:25	Olivia Arosemena	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016 00:13	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016 05:51	Kirby B Turner	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016 09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016 14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016 05:45	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016 09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 01:38	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/07/2016 01:29	Matthew Machtinger	10
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 01:38	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016 08:11	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/07/2016 01:29	Matthew Machtinger	10
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:28	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 17:30	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 17:30	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262911
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 15:35 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 17:30	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:30	Deborah A Krady	20
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:30	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:30	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/09/2016 08:30	Deborah A Krady	20
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:18	Damary Valentin	5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262912
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	56	24	8	0.95
11995	Benzene	71-43-2	< 6	6	0.6	0.95
11995	Bromodichloromethane	75-27-4	< 6	6	1	0.95
11995	Bromoform	75-25-2	< 6	6	1	0.95
11995	Bromomethane	74-83-9	< 6	6	2	0.95
11995	2-Butanone	78-93-3	< 12	12	5	0.95
11995	Carbon Disulfide	75-15-0	< 6	6	1	0.95
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	0.95
11995	Chlorobenzene	108-90-7	< 6	6	1	0.95
11995	Chloroethane	75-00-3	< 6	6	2	0.95
11995	Chloroform	67-66-3	< 6	6	1	0.95
11995	Chloromethane	74-87-3	< 6	6	2	0.95
11995	Cyclohexane	110-82-7	< 6	6	1	0.95
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	0.95
11995	Dibromochloromethane	124-48-1	< 6	6	1	0.95
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	0.95
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	0.95
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	0.95
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	0.95
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	0.95
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	0.95
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	0.95
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	0.95
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	0.95
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	0.95
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	0.95
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	0.95
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	0.95
11995	Ethylbenzene	100-41-4	< 6	6	1	0.95
11995	Freon 113	76-13-1	< 12	12	2	0.95
11995	2-Hexanone	591-78-6	< 12	12	4	0.95
11995	Isopropylbenzene	98-82-8	< 6	6	1	0.95
11995	Methyl Acetate	79-20-9	< 6	6	2	0.95
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	0.95
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	4	0.95
11995	Methylcyclohexane	108-87-2	< 6	6	1	0.95
11995	Methylene Chloride	75-09-2	< 6	6	2	0.95
11995	Styrene	100-42-5	< 6	6	1	0.95
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	0.95
11995	Tetrachloroethene	127-18-4	< 6	6	1	0.95
11995	Toluene	108-88-3	< 6	6	1	0.95
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	0.95
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	0.95
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	0.95
11995	Trichloroethene	79-01-6	< 6	6	1	0.95
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	0.95
11995	Vinyl Chloride	75-01-4	< 6	6	1	0.95
11995	Xylene (Total)	1330-20-7	< 6	6	1	0.95

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262912
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 210	210	42	10
10726	Acenaphthylene	208-96-8	< 210	210	42	10
10726	Acetophenone	98-86-2	< 420	420	210	10
10726	Anthracene	120-12-7	330	210	42	10
10726	Atrazine	1912-24-9	< 2,100	2,100	420	10
10726	Benzaldehyde	100-52-7	< 2,100	2,100	830	10
10726	Benzo(a)anthracene	56-55-3	830	210	42	10
10726	Benzo(a)pyrene	50-32-8	840	210	42	10
10726	Benzo(b)fluoranthene	205-99-2	1,300	210	42	10
10726	Benzo(g,h,i)perylene	191-24-2	700	210	42	10
10726	Benzo(k)fluoranthene	207-08-9	540	210	42	10
10726	1,1'-Biphenyl	92-52-4	< 420	420	210	10
10726	4-Bromophenyl-phenylether	101-55-3	< 420	420	210	10
10726	Butylbenzylphthalate	85-68-7	< 2,100	2,100	830	10
10726	Di-n-butylphthalate	84-74-2	< 2,100	2,100	830	10
10726	Caprolactam	105-60-2	< 2,100	2,100	420	10
10726	Carbazole	86-74-8	< 420	420	210	10
10726	4-Chloro-3-methylphenol	59-50-7	< 420	420	210	10
10726	4-Chloroaniline	106-47-8	< 830	830	420	10
10726	bis(2-Chloroethoxy)methane	111-91-1	< 420	420	210	10
10726	bis(2-Chloroethyl)ether	111-44-4	< 420	420	210	10
10726	2-Chloronaphthalene	91-58-7	< 410	410	83	10
10726	2-Chlorophenol	95-57-8	< 420	420	210	10
10726	4-Chlorophenyl-phenylether	7005-72-3	< 420	420	210	10
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 420	420	210	10
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	840	210	42	10
10726	Dibenz(a,h)anthracene	53-70-3	< 210	210	42	10
10726	Dibenzofuran	132-64-9	< 420	420	210	10
10726	3,3'-Dichlorobenzidine	91-94-1	< 4,200	4,200	1,200	10
10726	2,4-Dichlorophenol	120-83-2	< 420	420	210	10
10726	Diethylphthalate	84-66-2	< 2,100	2,100	830	10
10726	2,4-Dimethylphenol	105-67-9	< 420	420	210	10
10726	Dimethylphthalate	131-11-3	< 2,100	2,100	830	10
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 6,200	6,200	2,100	10
10726	2,4-Dinitrophenol	51-28-5	< 12,000	12,000	3,700	10
10726	2,4-Dinitrotoluene	121-14-2	< 2,100	2,100	830	10
10726	2,6-Dinitrotoluene	606-20-2	< 420	420	210	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 2,100	2,100	830	10
10726	Fluoranthene	206-44-0	1,600	210	42	10
10726	Fluorene	86-73-7	< 210	210	42	10
10726	Hexachlorobenzene	118-74-1	< 210	210	42	10
10726	Hexachlorobutadiene	87-68-3	< 420	420	210	10
10726	Hexachlorocyclopentadiene	77-47-4	< 6,200	6,200	2,100	10
10726	Hexachloroethane	67-72-1	< 2,100	2,100	420	10
10726	Indeno(1,2,3-cd)pyrene	193-39-5	600	210	42	10
10726	Isophorone	78-59-1	< 420	420	210	10
10726	2-Methylnaphthalene	91-57-6	270	210	42	10

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262912
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 420	420	210	10
10726	4-Methylphenol	106-44-5	< 420	420	210	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 210	210	42	10
10726	2-Nitroaniline	88-74-4	< 420	420	210	10
10726	3-Nitroaniline	99-09-2	< 2,100	2,100	830	10
10726	4-Nitroaniline	100-01-6	< 2,100	2,100	830	10
10726	Nitrobenzene	98-95-3	< 420	420	210	10
10726	2-Nitrophenol	88-75-5	< 420	420	210	10
10726	4-Nitrophenol	100-02-7	< 6,200	6,200	2,100	10
10726	N-Nitroso-di-n-propylamine	621-64-7	< 420	420	210	10
10726	N-Nitrosodiphenylamine	86-30-6	< 420	420	210	10
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 2,100	2,100	830	10
10726	Pentachlorophenol	87-86-5	< 2,100	2,100	420	10
10726	Phenanthrene	85-01-8	810	210	42	10
10726	Phenol	108-95-2	< 420	420	210	10
10726	Pyrene	129-00-0	1,300	210	42	10
10726	2,4,5-Trichlorophenol	95-95-4	< 420	420	210	10
10726	2,4,6-Trichlorophenol	88-06-2	< 420	420	210	10
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 150	150	49	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 150	150	49	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 370	370	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 370	370	120	1
13413	3,5-Dinitroaniline	618-87-1	< 150	150	49	1
13413	1,3-Dinitrobenzene	99-65-0	< 150	150	49	1
13413	2,4-Dinitrotoluene	121-14-2	< 150	150	49	1
13413	2,6-Dinitrotoluene	606-20-2	< 150	150	49	1
13413	HMX	2691-41-0	< 370	370	120	1
13413	Nitrobenzene	98-95-3	< 370	370	120	1
13413	Nitroglycerin	55-63-0	< 2,900	2,900	980	1
13413	2-Nitrotoluene	88-72-2	< 150	150	49	1
13413	3-Nitrotoluene	99-08-1	< 150	150	49	1
13413	4-Nitrotoluene	99-99-0	< 150	150	49	1
13413	PETN	78-11-5	< 2,900	2,900	980	1
13413	RDX	121-82-4	< 150	150	49	1
13413	Tetryl	479-45-8	< 370	370	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 150	150	49	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 150	150	49	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,100	1,100	220	50

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262912
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS32

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 1,100	1,100	280	50
10885	PCB-1232	11141-16-5	< 1,100	1,100	490	50
10885	PCB-1242	53469-21-9	< 1,100	1,100	200	50
10885	PCB-1248	12672-29-6	8,900	1,100	200	50
10885	PCB-1254	11097-69-1	3,800	1,100	200	50
10885	PCB-1260	11096-82-5	< 1,100	1,100	300	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 13	13	6.3	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	18,900	48.2	9.23	1
06946	Barium	7440-39-3	233	1.20	0.145	1
01650	Calcium	7440-70-2	25,500	48.2	4.01	1
06952	Cobalt	7440-48-4	239	1.20	0.0976	1
06953	Copper	7440-50-8	1,950	12.0	1.93	5
01654	Iron	7439-89-6	125,000	241	20.1	5
06955	Lead	7439-92-1	909	3.61	0.494	1
01657	Magnesium	7439-95-4	12,000	24.1	2.01	1
06958	Manganese	7439-96-5	1,030	1.20	0.145	1
06961	Nickel	7440-02-0	15,100	48.2	5.54	20
01662	Potassium	7440-09-7	1,470	120	20.2	1
01667	Sodium	7440-23-5	445	241	20.1	1
06970	Titanium	7440-32-6	580	2.41	0.446	1
06971	Vanadium	7440-62-2	56.9	1.20	0.277	1
06972	Zinc	7440-66-6	3,070	24.1	4.64	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	11.7	0.482	0.0795	2
06125	Arsenic	7440-38-2	18.3	0.964	0.181	2
06127	Beryllium	7440-41-7	0.580	0.241	0.0171	2
06128	Cadmium	7440-43-9	8.08	0.241	0.0554	2
06131	Chromium	7440-47-3	11,100	48.2	6.02	100
06141	Selenium	7782-49-2	< 0.964	0.964	0.120	2
06142	Silver	7440-22-4	1.55	0.241	0.0241	2
06145	Thallium	7440-28-0	< 0.241	0.241	0.0361	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	3.69	2.43	0.121	10
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	20.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262912
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS32

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 10:11	Jennifer K Howe	0.95
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 16:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 16:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016 16:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016 07:17	William H Saadeh	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLI026	03/06/2016 09:25	Olivia Arosemena	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016 00:49	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/09/2016 01:23	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016 09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016 14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016 06:03	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016 09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/07/2016 01:42	Matthew Machtinger	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 08:14	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 08:14	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/07/2016 01:42	Matthew Machtinger	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 01:45	Matthew Machtinger	5
01654	Iron	SW-846 6010C	1	160620637001	03/07/2016 01:45	Matthew Machtinger	5
06955	Lead	SW-846 6010C	1	160620637001	03/07/2016 01:42	Matthew Machtinger	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 01:42	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 08:14	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/07/2016 01:48	Matthew Machtinger	20
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 08:14	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 08:14	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016 01:42	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/07/2016 01:42	Matthew Machtinger	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262912
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06972	Zinc	SW-846 6010C	1	160620637001	03/07/2016 01:45	Matthew Machtinger	5
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:32	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 17:33	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 17:33	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 17:33	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:34	Deborah A Krady	100
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:33	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:33	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:33	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:20	Damary Valentin	10
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262913
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:15 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	31	21	7	0.91
11995	Benzene	71-43-2	< 5	5	0.5	0.91
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.91
11995	Bromoform	75-25-2	< 5	5	1	0.91
11995	Bromomethane	74-83-9	< 5	5	2	0.91
11995	2-Butanone	78-93-3	< 10	10	4	0.91
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.91
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.91
11995	Chlorobenzene	108-90-7	< 5	5	1	0.91
11995	Chloroethane	75-00-3	< 5	5	2	0.91
11995	Chloroform	67-66-3	< 5	5	1	0.91
11995	Chloromethane	74-87-3	< 5	5	2	0.91
11995	Cyclohexane	110-82-7	< 5	5	1	0.91
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.91
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.91
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.91
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.91
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.91
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.91
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.91
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.91
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.91
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.91
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.91
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.91
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.91
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.91
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.91
11995	Ethylbenzene	100-41-4	< 5	5	1	0.91
11995	Freon 113	76-13-1	< 10	10	2	0.91
11995	2-Hexanone	591-78-6	< 10	10	3	0.91
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.91
11995	Methyl Acetate	79-20-9	< 5	5	2	0.91
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.91
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.91
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.91
11995	Methylene Chloride	75-09-2	< 5	5	2	0.91
11995	Styrene	100-42-5	< 5	5	1	0.91
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.91
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.91
11995	Toluene	108-88-3	< 5	5	1	0.91
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.91
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.91
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.91
11995	Trichloroethene	79-01-6	< 5	5	1	0.91
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.91
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.91
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.91

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262913
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:15 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS36

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	76	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	76	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	76	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 76	76	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 38	38	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 38	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	76	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	76	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 570	570	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	76	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	76	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 570	570	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262913
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:15 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS36

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 38	38	19	1
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	76	1
10726	4-Nitroaniline	100-01-6	< 190	190	76	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 570	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	76	1
10726	Pentachlorophenol	87-86-5	< 190	190	38	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	910	1
13413	2-Nitrotoluene	88-72-2	< 140	140	45	1
13413	3-Nitrotoluene	99-08-1	< 140	140	45	1
13413	4-Nitrotoluene	99-99-0	< 140	140	45	1
13413	PETN	78-11-5	< 2,700	2,700	910	1
13413	RDX	121-82-4	< 140	140	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262913
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:15 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS36

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 19	19	5.2	1
10885	PCB-1232	11141-16-5	< 19	19	9.0	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	< 19	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.5	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	27,200	45.4	8.69	1
06946	Barium	7440-39-3	85.5	1.13	0.136	1
01650	Calcium	7440-70-2	477	45.4	3.78	1
06952	Cobalt	7440-48-4	7.85	1.13	0.0919	1
06953	Copper	7440-50-8	32.1	2.27	0.363	1
01654	Iron	7439-89-6	24,500	45.4	3.78	1
06955	Lead	7439-92-1	8.80	3.40	0.465	1
01657	Magnesium	7439-95-4	2,980	22.7	1.89	1
06958	Manganese	7439-96-5	231	1.13	0.136	1
06961	Nickel	7440-02-0	11.7	2.27	0.261	1
01662	Potassium	7440-09-7	2,360	113	19.1	1
01667	Sodium	7440-23-5	< 227	227	18.9	1
06970	Titanium	7440-32-6	1,330	2.27	0.420	1
06971	Vanadium	7440-62-2	51.5	1.13	0.261	1
06972	Zinc	7440-66-6	45.2	4.54	0.873	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.454	0.454	0.0749	2
06125	Arsenic	7440-38-2	1.57	0.907	0.170	2
06127	Beryllium	7440-41-7	0.721	0.227	0.0161	2
06128	Cadmium	7440-43-9	< 0.227	0.227	0.0522	2
06131	Chromium	7440-47-3	23.3	0.907	0.113	2
06141	Selenium	7782-49-2	< 0.907	0.907	0.113	2
06142	Silver	7440-22-4	< 0.227	0.227	0.0227	2
06145	Thallium	7440-28-0	0.325	0.227	0.0340	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.224	0.224	0.0112	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262913
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:15 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS36

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	10:34	Jennifer K Howe	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	16:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	16:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	16:15	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16064SLI026	03/08/2016	07:44	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16064SLI026	03/06/2016	09:25	Olivia Arosemena	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016	01:26	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	06:14	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	06:21	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	03:02	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	03:02	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016	03:02	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	08:18	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:39	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:36	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:36	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:36	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:39	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262913
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:15 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:36	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:36	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:36	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:57	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262914
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 27	27	9	1.3
11995	Benzene	71-43-2	< 7	7	0.7	1.3
11995	Bromodichloromethane	75-27-4	< 7	7	1	1.3
11995	Bromoform	75-25-2	< 7	7	1	1.3
11995	Bromomethane	74-83-9	< 7	7	3	1.3
11995	2-Butanone	78-93-3	< 13	13	5	1.3
11995	Carbon Disulfide	75-15-0	< 7	7	1	1.3
11995	Carbon Tetrachloride	56-23-5	< 7	7	1	1.3
11995	Chlorobenzene	108-90-7	< 7	7	1	1.3
11995	Chloroethane	75-00-3	< 7	7	3	1.3
11995	Chloroform	67-66-3	< 7	7	1	1.3
11995	Chloromethane	74-87-3	< 7	7	3	1.3
11995	Cyclohexane	110-82-7	< 7	7	1	1.3
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 7	7	3	1.3
11995	Dibromochloromethane	124-48-1	< 7	7	1	1.3
11995	1,2-Dibromoethane	106-93-4	< 7	7	1	1.3
11995	1,2-Dichlorobenzene	95-50-1	< 7	7	1	1.3
11995	1,3-Dichlorobenzene	541-73-1	< 7	7	1	1.3
11995	1,4-Dichlorobenzene	106-46-7	< 7	7	1	1.3
11995	Dichlorodifluoromethane	75-71-8	< 7	7	3	1.3
11995	1,1-Dichloroethane	75-34-3	< 7	7	1	1.3
11995	1,2-Dichloroethane	107-06-2	< 7	7	1	1.3
11995	1,1-Dichloroethene	75-35-4	< 7	7	1	1.3
11995	cis-1,2-Dichloroethene	156-59-2	< 7	7	1	1.3
11995	trans-1,2-Dichloroethene	156-60-5	< 7	7	1	1.3
11995	1,2-Dichloropropane	78-87-5	< 7	7	1	1.3
11995	cis-1,3-Dichloropropene	10061-01-5	< 7	7	1	1.3
11995	trans-1,3-Dichloropropene	10061-02-6	< 7	7	1	1.3
11995	Ethylbenzene	100-41-4	< 7	7	1	1.3
11995	Freon 113	76-13-1	< 13	13	3	1.3
11995	2-Hexanone	591-78-6	< 13	13	4	1.3
11995	Isopropylbenzene	98-82-8	< 7	7	1	1.3
11995	Methyl Acetate	79-20-9	< 7	7	3	1.3
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 7	7	0.7	1.3
11995	4-Methyl-2-pentanone	108-10-1	< 13	13	4	1.3
11995	Methylcyclohexane	108-87-2	< 7	7	1	1.3
11995	Methylene Chloride	75-09-2	< 7	7	3	1.3
11995	Styrene	100-42-5	< 7	7	1	1.3
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 7	7	1	1.3
11995	Tetrachloroethene	127-18-4	< 7	7	1	1.3
11995	Toluene	108-88-3	< 7	7	1	1.3
11995	1,2,4-Trichlorobenzene	120-82-1	< 7	7	1	1.3
11995	1,1,1-Trichloroethane	71-55-6	< 7	7	1	1.3
11995	1,1,2-Trichloroethane	79-00-5	< 7	7	1	1.3
11995	Trichloroethene	79-01-6	< 7	7	1	1.3
11995	Trichlorofluoromethane	75-69-4	< 7	7	3	1.3
11995	Vinyl Chloride	75-01-4	< 7	7	1	1.3
11995	Xylene (Total)	1330-20-7	< 7	7	1	1.3

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262914
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 17	17	3	1
10726	Acenaphthylene	208-96-8	< 17	17	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 17	17	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	67	1
10726	Benzo(a)anthracene	56-55-3	< 17	17	3	1
10726	Benzo(a)pyrene	50-32-8	< 17	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 17	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 17	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 17	17	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	67	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	67	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 67	67	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 33	33	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 17	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 17	17	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	67	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	67	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 510	510	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	67	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 170	170	67	1
10726	Fluoranthene	206-44-0	< 17	17	3	1
10726	Fluorene	86-73-7	< 17	17	3	1
10726	Hexachlorobenzene	118-74-1	< 17	17	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 510	510	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 17	17	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 17	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262914
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 34	34	17	1
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 17	17	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	67	1
10726	4-Nitroaniline	100-01-6	< 170	170	67	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 510	510	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	67	1
10726	Pentachlorophenol	87-86-5	< 170	170	34	1
10726	Phenanthrene	85-01-8	< 17	17	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 17	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	40	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	40	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 300	300	99	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 300	300	99	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	40	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	40	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	40	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	40	1
13413	HMX	2691-41-0	< 300	300	99	1
13413	Nitrobenzene	98-95-3	< 300	300	99	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	790	1
13413	2-Nitrotoluene	88-72-2	< 120	120	40	1
13413	3-Nitrotoluene	99-08-1	< 120	120	40	1
13413	4-Nitrotoluene	99-99-0	< 120	120	40	1
13413	PETN	78-11-5	< 2,400	2,400	790	1
13413	RDX	121-82-4	< 120	120	40	1
13413	Tetryl	479-45-8	< 300	300	99	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	40	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	40	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.7	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262914
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS31

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 17	17	4.7	1
10885	PCB-1232	11141-16-5	< 17	17	8.1	1
10885	PCB-1242	53469-21-9	< 17	17	3.4	1
10885	PCB-1248	12672-29-6	18	17	3.4	1
10885	PCB-1254	11097-69-1	< 17	17	3.4	1
10885	PCB-1260	11096-82-5	< 17	17	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	5,110	40.1	7.67	1
06946	Barium	7440-39-3	14.5	1.00	0.120	1
01650	Calcium	7440-70-2	190	40.1	3.33	1
06952	Cobalt	7440-48-4	1.28	1.00	0.0811	1
06953	Copper	7440-50-8	56.4	2.00	0.320	1
01654	Iron	7439-89-6	4,500	40.1	3.33	1
06955	Lead	7439-92-1	< 3.00	3.00	0.411	1
01657	Magnesium	7439-95-4	290	20.0	1.67	1
06958	Manganese	7439-96-5	125	1.00	0.120	1
06961	Nickel	7440-02-0	< 2.00	2.00	0.230	1
01662	Potassium	7440-09-7	239	100	16.8	1
01667	Sodium	7440-23-5	< 200	200	16.7	1
06970	Titanium	7440-32-6	261	2.00	0.371	1
06971	Vanadium	7440-62-2	8.38	1.00	0.230	1
06972	Zinc	7440-66-6	8.20	4.01	0.771	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.401	0.401	0.0661	2
06125	Arsenic	7440-38-2	< 0.801	0.801	0.150	2
06127	Beryllium	7440-41-7	< 0.200	0.200	0.0142	2
06128	Cadmium	7440-43-9	< 0.200	0.200	0.0461	2
06131	Chromium	7440-47-3	5.29	0.801	0.100	2
06141	Selenium	7782-49-2	< 0.801	0.801	0.100	2
06142	Silver	7440-22-4	< 0.200	0.200	0.0200	2
06145	Thallium	7440-28-0	< 0.200	0.200	0.0300	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.192	0.192	0.0096	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	2.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262914
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS31

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	10:56	Jennifer K Howe	1.3
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	16:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	21:40	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016	02:03	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	06:48	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/09/2016	03:20	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	00:32	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	00:32	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	07:21	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:02	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	16:44	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	16:44	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	16:44	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:02	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016	16:44	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262914
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 16:44	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 16:44	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:25	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262915
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	140	21	7	1.01
11995	Benzene	71-43-2	22	5	0.5	1.01
11995	Bromodichloromethane	75-27-4	20	5	1	1.01
11995	Bromoform	75-25-2	19	5	1	1.01
11995	Bromomethane	74-83-9	15	5	2	1.01
11995	2-Butanone	78-93-3	140	10	4	1.01
11995	Carbon Disulfide	75-15-0	21	5	1	1.01
11995	Carbon Tetrachloride	56-23-5	22	5	1	1.01
11995	Chlorobenzene	108-90-7	20	5	1	1.01
11995	Chloroethane	75-00-3	15	5	2	1.01
11995	Chloroform	67-66-3	21	5	1	1.01
11995	Chloromethane	74-87-3	14	5	2	1.01
11995	Cyclohexane	110-82-7	24	5	1	1.01
11995	1,2-Dibromo-3-chloropropane	96-12-8	22	5	2	1.01
11995	Dibromochloromethane	124-48-1	19	5	1	1.01
11995	1,2-Dibromoethane	106-93-4	21	5	1	1.01
11995	1,2-Dichlorobenzene	95-50-1	20	5	1	1.01
11995	1,3-Dichlorobenzene	541-73-1	20	5	1	1.01
11995	1,4-Dichlorobenzene	106-46-7	19	5	1	1.01
11995	Dichlorodifluoromethane	75-71-8	12	5	2	1.01
11995	1,1-Dichloroethane	75-34-3	21	5	1	1.01
11995	1,2-Dichloroethane	107-06-2	20	5	1	1.01
11995	1,1-Dichloroethene	75-35-4	23	5	1	1.01
11995	cis-1,2-Dichloroethene	156-59-2	23	5	1	1.01
11995	trans-1,2-Dichloroethene	156-60-5	23	5	1	1.01
11995	1,2-Dichloropropane	78-87-5	22	5	1	1.01
11995	cis-1,3-Dichloropropene	10061-01-5	21	5	1	1.01
11995	trans-1,3-Dichloropropene	10061-02-6	20	5	1	1.01
11995	Ethylbenzene	100-41-4	21	5	1	1.01
11995	Freon 113	76-13-1	24	10	2	1.01
11995	2-Hexanone	591-78-6	110	10	3	1.01
11995	Isopropylbenzene	98-82-8	22	5	1	1.01
11995	Methyl Acetate	79-20-9	23	5	2	1.01
11995	Methyl Tertiary Butyl Ether	1634-04-4	22	5	0.5	1.01
11995	4-Methyl-2-pentanone	108-10-1	120	10	3	1.01
11995	Methylcyclohexane	108-87-2	25	5	1	1.01
11995	Methylene Chloride	75-09-2	21	5	2	1.01
11995	Styrene	100-42-5	18	5	1	1.01
11995	1,1,2,2-Tetrachloroethane	79-34-5	22	5	1	1.01
11995	Tetrachloroethene	127-18-4	22	5	1	1.01
11995	Toluene	108-88-3	21	5	1	1.01
11995	1,2,4-Trichlorobenzene	120-82-1	19	5	1	1.01
11995	1,1,1-Trichloroethane	71-55-6	21	5	1	1.01
11995	1,1,2-Trichloroethane	79-00-5	20	5	1	1.01
11995	Trichloroethene	79-01-6	22	5	1	1.01
11995	Trichlorofluoromethane	75-69-4	17	5	2	1.01
11995	Vinyl Chloride	75-01-4	16	5	1	1.01
11995	Xylene (Total)	1330-20-7	63	5	1	1.01

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262915
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	1,700	17	3	1
10726	Acenaphthylene	208-96-8	1,800	17	3	1
10726	Acetophenone	98-86-2	1,600	34	17	1
10726	Anthracene	120-12-7	1,600	17	3	1
10726	Atrazine	1912-24-9	1,400	170	34	1
10726	Benzaldehyde	100-52-7	1,100	170	67	1
10726	Benzo(a)anthracene	56-55-3	1,500	17	3	1
10726	Benzo(a)pyrene	50-32-8	1,700	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	1,700	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	1,800	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	1,700	17	3	1
10726	1,1'-Biphenyl	92-52-4	1,500	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	2,000	34	17	1
10726	Butylbenzylphthalate	85-68-7	1,800	170	67	1
10726	Di-n-butylphthalate	84-74-2	1,600	170	67	1
10726	Caprolactam	105-60-2	1,500	170	34	1
10726	Carbazole	86-74-8	1,600	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	1,700	34	17	1
10726	4-Chloroaniline	106-47-8	860	67	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,600	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,600	34	17	1
10726	2-Chloronaphthalene	91-58-7	1,800	33	7	1
10726	2-Chlorophenol	95-57-8	1,700	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,700	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	1,600	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,600	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	1,800	17	3	1
10726	Dibenzofuran	132-64-9	1,700	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	1,400	340	100	1
10726	2,4-Dichlorophenol	120-83-2	1,800	34	17	1
10726	Diethylphthalate	84-66-2	1,700	170	67	1
10726	2,4-Dimethylphenol	105-67-9	1,600	34	17	1
10726	Dimethylphthalate	131-11-3	1,700	170	67	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,300	500	170	1
10726	2,4-Dinitrophenol	51-28-5	1,700	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	1,700	170	67	1
10726	2,6-Dinitrotoluene	606-20-2	1,700	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,700	170	67	1
10726	Fluoranthene	206-44-0	1,500	17	3	1
10726	Fluorene	86-73-7	1,700	17	3	1
10726	Hexachlorobenzene	118-74-1	1,900	17	3	1
10726	Hexachlorobutadiene	87-68-3	1,700	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	3,800	500	170	1
10726	Hexachloroethane	67-72-1	1,900	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	17	3	1
10726	Isophorone	78-59-1	1,600	34	17	1
10726	2-Methylnaphthalene	91-57-6	1,600	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262915
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	1,800	34	17	1
10726	4-Methylphenol	106-44-5	1,700	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,600	17	3	1
10726	2-Nitroaniline	88-74-4	1,700	34	17	1
10726	3-Nitroaniline	99-09-2	1,600	170	67	1
10726	4-Nitroaniline	100-01-6	1,400	170	67	1
10726	Nitrobenzene	98-95-3	1,700	34	17	1
10726	2-Nitrophenol	88-75-5	1,700	34	17	1
10726	4-Nitrophenol	100-02-7	1,600	500	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,800	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	1,600	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	1,800	170	67	1
10726	Pentachlorophenol	87-86-5	1,700	170	34	1
10726	Phenanthrene	85-01-8	1,600	17	3	1
10726	Phenol	108-95-2	1,700	34	17	1
10726	Pyrene	129-00-0	1,600	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	1,800	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	1,800	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	1,700	120	39	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	1,700	120	39	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 290	290	98	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 290	290	98	1
13413	3,5-Dinitroaniline	618-87-1	1,700	120	39	1
13413	1,3-Dinitrobenzene	99-65-0	1,800	120	39	1
13413	2,4-Dinitrotoluene	121-14-2	1,800	120	39	1
13413	2,6-Dinitrotoluene	606-20-2	1,700	120	39	1
13413	HMX	2691-41-0	1,700	290	98	1
13413	Nitrobenzene	98-95-3	2,000	290	98	1
13413	Nitroglycerin	55-63-0	17,000	2,400	780	1
13413	2-Nitrotoluene	88-72-2	1,800	120	39	1
13413	3-Nitrotoluene	99-08-1	1,800	120	39	1
13413	4-Nitrotoluene	99-99-0	1,700	120	39	1
13413	PETN	78-11-5	18,000	2,400	780	1
13413	RDX	121-82-4	1,900	120	39	1
13413	Tetryl	479-45-8	1,300	290	98	1
13413	1,3,5-Trinitrobenzene	99-35-4	1,700	120	39	1
13413	2,4,6-Trinitrotoluene	118-96-7	1,700	120	39	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	160	17	3.6	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
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Analysis Report

Sample Description: SBO-03-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262915
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 17	17	4.6	1
10885	PCB-1232	11141-16-5	< 17	17	8.1	1
10885	PCB-1242	53469-21-9	< 17	17	3.3	1
10885	PCB-1248	12672-29-6	160	17	3.3	1
10885	PCB-1254	11097-69-1	< 17	17	3.3	1
10885	PCB-1260	11096-82-5	200	17	4.9	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	95	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,710	40.1	7.67	1
06946	Barium	7440-39-3	216	1.00	0.120	1
01650	Calcium	7440-70-2	696	40.1	3.33	1
06952	Cobalt	7440-48-4	51.1	1.00	0.0811	1
06953	Copper	7440-50-8	33.3	2.00	0.320	1
01654	Iron	7439-89-6	4,880	40.1	3.33	1
06955	Lead	7439-92-1	17.2	3.00	0.411	1
01657	Magnesium	7439-95-4	516	20.0	1.67	1
06958	Manganese	7439-96-5	179	1.00	0.120	1
06961	Nickel	7440-02-0	52.3	2.00	0.230	1
01662	Potassium	7440-09-7	1,310	100	16.8	1
01667	Sodium	7440-23-5	1,090	200	16.7	1
06970	Titanium	7440-32-6	353	2.00	0.371	1
06971	Vanadium	7440-62-2	61.1	1.00	0.230	1
06972	Zinc	7440-66-6	57.2	4.01	0.771	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.08	0.401	0.0661	2
06125	Arsenic	7440-38-2	2.27	0.801	0.150	2
06127	Beryllium	7440-41-7	1.01	0.200	0.0142	2
06128	Cadmium	7440-43-9	1.06	0.200	0.0461	2
06131	Chromium	7440-47-3	16.0	0.801	0.100	2
06141	Selenium	7782-49-2	2.17	0.801	0.100	2
06142	Silver	7440-22-4	9.68	0.200	0.0200	2
06145	Thallium	7440-28-0	0.432	0.200	0.0300	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.195	0.195	0.0097	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	2.1	0.50	0.50	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262915
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS31

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	11:19	Jennifer K Howe	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	16:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	22:02	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016	02:39	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	07:00	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/10/2016	18:22	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	00:41	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	00:41	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	07:30	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:08	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	16:53	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	16:53	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	16:53	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:08	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016	16:53	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262915
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 16:53	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 16:53	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:31	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00118	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262916
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	110	22	8	1.07
11995	Benzene	71-43-2	21	5	0.5	1.07
11995	Bromodichloromethane	75-27-4	18	5	1	1.07
11995	Bromoform	75-25-2	17	5	1	1.07
11995	Bromomethane	74-83-9	15	5	2	1.07
11995	2-Butanone	78-93-3	110	11	4	1.07
11995	Carbon Disulfide	75-15-0	21	5	1	1.07
11995	Carbon Tetrachloride	56-23-5	21	5	1	1.07
11995	Chlorobenzene	108-90-7	20	5	1	1.07
11995	Chloroethane	75-00-3	15	5	2	1.07
11995	Chloroform	67-66-3	20	5	1	1.07
11995	Chloromethane	74-87-3	14	5	2	1.07
11995	Cyclohexane	110-82-7	24	5	1	1.07
11995	1,2-Dibromo-3-chloropropane	96-12-8	17	5	2	1.07
11995	Dibromochloromethane	124-48-1	17	5	1	1.07
11995	1,2-Dibromoethane	106-93-4	19	5	1	1.07
11995	1,2-Dichlorobenzene	95-50-1	19	5	1	1.07
11995	1,3-Dichlorobenzene	541-73-1	19	5	1	1.07
11995	1,4-Dichlorobenzene	106-46-7	18	5	1	1.07
11995	Dichlorodifluoromethane	75-71-8	11	5	2	1.07
11995	1,1-Dichloroethane	75-34-3	21	5	1	1.07
11995	1,2-Dichloroethane	107-06-2	18	5	1	1.07
11995	1,1-Dichloroethene	75-35-4	23	5	1	1.07
11995	cis-1,2-Dichloroethene	156-59-2	22	5	1	1.07
11995	trans-1,2-Dichloroethene	156-60-5	22	5	1	1.07
11995	1,2-Dichloropropane	78-87-5	21	5	1	1.07
11995	cis-1,3-Dichloropropene	10061-01-5	19	5	1	1.07
11995	trans-1,3-Dichloropropene	10061-02-6	19	5	1	1.07
11995	Ethylbenzene	100-41-4	21	5	1	1.07
11995	Freon 113	76-13-1	23	11	2	1.07
11995	2-Hexanone	591-78-6	90	11	3	1.07
11995	Isopropylbenzene	98-82-8	22	5	1	1.07
11995	Methyl Acetate	79-20-9	18	5	2	1.07
11995	Methyl Tertiary Butyl Ether	1634-04-4	19	5	0.5	1.07
11995	4-Methyl-2-pentanone	108-10-1	92	11	3	1.07
11995	Methylcyclohexane	108-87-2	24	5	1	1.07
11995	Methylene Chloride	75-09-2	22	5	2	1.07
11995	Styrene	100-42-5	17	5	1	1.07
11995	1,1,2,2-Tetrachloroethane	79-34-5	19	5	1	1.07
11995	Tetrachloroethene	127-18-4	22	5	1	1.07
11995	Toluene	108-88-3	21	5	1	1.07
11995	1,2,4-Trichlorobenzene	120-82-1	17	5	1	1.07
11995	1,1,1-Trichloroethane	71-55-6	20	5	1	1.07
11995	1,1,2-Trichloroethane	79-00-5	18	5	1	1.07
11995	Trichloroethene	79-01-6	21	5	1	1.07
11995	Trichlorofluoromethane	75-69-4	16	5	2	1.07
11995	Vinyl Chloride	75-01-4	16	5	1	1.07
11995	Xylene (Total)	1330-20-7	63	5	1	1.07

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262916
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	1,800	17	3	1
10726	Acenaphthylene	208-96-8	1,900	17	3	1
10726	Acetophenone	98-86-2	1,600	34	17	1
10726	Anthracene	120-12-7	1,700	17	3	1
10726	Atrazine	1912-24-9	1,400	170	34	1
10726	Benzaldehyde	100-52-7	1,000	170	67	1
10726	Benzo(a)anthracene	56-55-3	1,500	17	3	1
10726	Benzo(a)pyrene	50-32-8	1,700	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	1,700	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	1,800	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	1,800	17	3	1
10726	1,1'-Biphenyl	92-52-4	1,500	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	1,900	34	17	1
10726	Butylbenzylphthalate	85-68-7	1,800	170	67	1
10726	Di-n-butylphthalate	84-74-2	1,700	170	67	1
10726	Caprolactam	105-60-2	1,700	170	34	1
10726	Carbazole	86-74-8	1,600	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	1,900	34	17	1
10726	4-Chloroaniline	106-47-8	910	67	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,700	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,500	34	17	1
10726	2-Chloronaphthalene	91-58-7	1,900	33	7	1
10726	2-Chlorophenol	95-57-8	1,600	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,700	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	1,400	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,600	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	1,800	17	3	1
10726	Dibenzofuran	132-64-9	1,700	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	1,500	340	100	1
10726	2,4-Dichlorophenol	120-83-2	1,800	34	17	1
10726	Diethylphthalate	84-66-2	1,800	170	67	1
10726	2,4-Dimethylphenol	105-67-9	1,700	34	17	1
10726	Dimethylphthalate	131-11-3	1,800	170	67	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,300	500	170	1
10726	2,4-Dinitrophenol	51-28-5	2,000	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	1,700	170	67	1
10726	2,6-Dinitrotoluene	606-20-2	1,800	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,700	170	67	1
10726	Fluoranthene	206-44-0	1,500	17	3	1
10726	Fluorene	86-73-7	1,800	17	3	1
10726	Hexachlorobenzene	118-74-1	2,000	17	3	1
10726	Hexachlorobutadiene	87-68-3	1,700	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	3,800	500	170	1
10726	Hexachloroethane	67-72-1	1,600	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,800	17	3	1
10726	Isophorone	78-59-1	1,800	34	17	1
10726	2-Methylnaphthalene	91-57-6	1,800	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-03-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262916
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	1,700	34	17	1
10726	4-Methylphenol	106-44-5	1,600	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,700	17	3	1
10726	2-Nitroaniline	88-74-4	1,800	34	17	1
10726	3-Nitroaniline	99-09-2	1,700	170	67	1
10726	4-Nitroaniline	100-01-6	1,500	170	67	1
10726	Nitrobenzene	98-95-3	1,800	34	17	1
10726	2-Nitrophenol	88-75-5	1,700	34	17	1
10726	4-Nitrophenol	100-02-7	1,700	500	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,700	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	1,600	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	1,800	170	67	1
10726	Pentachlorophenol	87-86-5	1,600	170	34	1
10726	Phenanthrene	85-01-8	1,600	17	3	1
10726	Phenol	108-95-2	1,600	34	17	1
10726	Pyrene	129-00-0	1,700	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	1,800	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	1,800	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	1,600	120	40	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	1,600	120	40	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 300	300	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 300	300	100	1
13413	3,5-Dinitroaniline	618-87-1	1,700	120	40	1
13413	1,3-Dinitrobenzene	99-65-0	1,800	120	40	1
13413	2,4-Dinitrotoluene	121-14-2	1,700	120	40	1
13413	2,6-Dinitrotoluene	606-20-2	1,700	120	40	1
13413	HMX	2691-41-0	1,700	300	100	1
13413	Nitrobenzene	98-95-3	1,900	300	100	1
13413	Nitroglycerin	55-63-0	17,000	2,400	810	1
13413	2-Nitrotoluene	88-72-2	1,700	120	40	1
13413	3-Nitrotoluene	99-08-1	1,700	120	40	1
13413	4-Nitrotoluene	99-99-0	1,700	120	40	1
13413	PETN	78-11-5	17,000	2,400	810	1
13413	RDX	121-82-4	1,800	120	40	1
13413	Tetryl	479-45-8	1,100	300	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	1,600	120	40	1
13413	2,4,6-Trinitrotoluene	118-96-7	1,700	120	40	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	150	17	3.7	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262916
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 17	17	4.7	1
10885	PCB-1232	11141-16-5	< 17	17	8.1	1
10885	PCB-1242	53469-21-9	< 17	17	3.4	1
10885	PCB-1248	12672-29-6	130	17	3.4	1
10885	PCB-1254	11097-69-1	< 17	17	3.4	1
10885	PCB-1260	11096-82-5	190	17	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	110	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,590	40.1	7.67	1
06946	Barium	7440-39-3	217	1.00	0.120	1
01650	Calcium	7440-70-2	712	40.1	3.33	1
06952	Cobalt	7440-48-4	50.6	1.00	0.0811	1
06953	Copper	7440-50-8	34.5	2.00	0.320	1
01654	Iron	7439-89-6	4,940	40.1	3.33	1
06955	Lead	7439-92-1	17.8	3.00	0.411	1
01657	Magnesium	7439-95-4	535	20.0	1.67	1
06958	Manganese	7439-96-5	177	1.00	0.120	1
06961	Nickel	7440-02-0	51.9	2.00	0.230	1
01662	Potassium	7440-09-7	1,300	100	16.8	1
01667	Sodium	7440-23-5	1,070	200	16.7	1
06970	Titanium	7440-32-6	369	2.00	0.371	1
06971	Vanadium	7440-62-2	59.9	1.00	0.230	1
06972	Zinc	7440-66-6	58.3	4.01	0.771	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.16	0.401	0.0661	2
06125	Arsenic	7440-38-2	2.19	0.801	0.150	2
06127	Beryllium	7440-41-7	0.920	0.200	0.0142	2
06128	Cadmium	7440-43-9	0.966	0.200	0.0461	2
06131	Chromium	7440-47-3	14.3	0.801	0.100	2
06141	Selenium	7782-49-2	2.15	0.801	0.100	2
06142	Silver	7440-22-4	9.82	0.200	0.0200	2
06145	Thallium	7440-28-0	0.417	0.200	0.0300	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.200	0.200	0.010	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	2.1	0.50	0.50	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262916
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS31

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	11:42	Jennifer K Howe	1.07
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	16:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	22:25	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016	03:16	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	07:11	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670008A	03/10/2016	18:40	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670008A	03/08/2016	09:30	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	00:44	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	00:44	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	07:34	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:09	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	16:56	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	16:56	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	16:56	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:09	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016	16:56	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262916
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 16:56	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 16:56	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:33	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00118	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262917
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	3,490	40.1	7.67	1
06946	Barium	7440-39-3	14.5	1.00	0.120	1
01650	Calcium	7440-70-2	168	40.1	3.33	1
06952	Cobalt	7440-48-4	1.19	1.00	0.0811	1
06953	Copper	7440-50-8	9.29	2.00	0.320	1
01654	Iron	7439-89-6	4,270	40.1	3.33	1
06955	Lead	7439-92-1	< 3.00	3.00	0.411	1
01657	Magnesium	7439-95-4	242	20.0	1.67	1
06958	Manganese	7439-96-5	117	1.00	0.120	1
06961	Nickel	7440-02-0	< 2.00	2.00	0.230	1
01662	Potassium	7440-09-7	213	100	16.8	1
01667	Sodium	7440-23-5	< 200	200	16.7	1
06970	Titanium	7440-32-6	225	2.00	0.371	1
06971	Vanadium	7440-62-2	7.42	1.00	0.230	1
06972	Zinc	7440-66-6	8.09	4.01	0.771	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.401	0.401	0.0661	2
06125	Arsenic	7440-38-2	< 0.801	0.801	0.150	2
06127	Beryllium	7440-41-7	< 0.200	0.200	0.0142	2
06128	Cadmium	7440-43-9	< 0.200	0.200	0.0461	2
06131	Chromium	7440-47-3	5.41	0.801	0.100	2
06141	Selenium	7782-49-2	< 0.801	0.801	0.100	2
06142	Silver	7440-22-4	< 0.200	0.200	0.0200	2
06145	Thallium	7440-28-0	< 0.200	0.200	0.0300	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.202	0.202	0.0101	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	2.1	0.50	0.50	1
00121	Moisture Duplicate	n.a.	2.2	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-03-12-14-022616DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262917
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 16:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
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Box 13
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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 00:38	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 00:38	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016 07:27	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:06	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 16:50	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 16:50	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 16:50	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:06	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 16:50	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 16:50	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 16:50	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 08:29	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00118	Moisture	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16063820005A	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262918
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 07:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS90

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	94	20	7	0.89
11995	Benzene	71-43-2	< 5	5	0.5	0.89
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.89
11995	Bromoform	75-25-2	< 5	5	1	0.89
11995	Bromomethane	74-83-9	< 5	5	2	0.89
11995	2-Butanone	78-93-3	18	10	4	0.89
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.89
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.89
11995	Chlorobenzene	108-90-7	< 5	5	1	0.89
11995	Chloroethane	75-00-3	< 5	5	2	0.89
11995	Chloroform	67-66-3	< 5	5	1	0.89
11995	Chloromethane	74-87-3	< 5	5	2	0.89
11995	Cyclohexane	110-82-7	< 5	5	1	0.89
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.89
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.89
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.89
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.89
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.89
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.89
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.89
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.89
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.89
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.89
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.89
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.89
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.89
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.89
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.89
11995	Ethylbenzene	100-41-4	20	5	1	0.89
11995	Freon 113	76-13-1	< 10	10	2	0.89
11995	2-Hexanone	591-78-6	< 10	10	3	0.89
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.89
11995	Methyl Acetate	79-20-9	< 5	5	2	0.89
11995	Methyl Tertiary Butyl Ether	1634-04-4	270	5	0.5	0.89
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.89
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.89
11995	Methylene Chloride	75-09-2	< 5	5	2	0.89
11995	Styrene	100-42-5	< 5	5	1	0.89
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.89
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.89
11995	Toluene	108-88-3	< 5	5	1	0.89
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.89
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.89
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.89
11995	Trichloroethene	79-01-6	< 5	5	1	0.89
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.89
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.89
11995	Xylene (Total)	1330-20-7	22	5	1	0.89

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262918
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 07:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS90

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	from the initial analysis of the sample.					
	Internal Standard - Initial Analysis	% Recovery				
	1,4-Dichlorobenzene-d4	-58				
	Internal Standard - Re-analysis	% Recovery				
	Fluorobenzene	-85				
	Chlorobenzene-d5	-87				
	1,4-Dichlorobenzene-d4	-91				
	tert-Butyl Alcohol-d10	-73				
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	1,000	96	19	1
10726	Acenaphthylene	208-96-8	130	96	19	1
10726	Acetophenone	98-86-2	< 190	190	94	1
10726	Anthracene	120-12-7	3,400	96	19	1
10726	Atrazine	1912-24-9	< 940	940	190	1
10726	Benzaldehyde	100-52-7	< 940	940	380	1
10726	Benzo(a)anthracene	56-55-3	6,100	96	19	1
10726	Benzo(a)pyrene	50-32-8	5,300	96	19	1
10726	Benzo(b)fluoranthene	205-99-2	7,100	96	19	1
10726	Benzo(g,h,i)perylene	191-24-2	4,100	96	19	1
10726	Benzo(k)fluoranthene	207-08-9	2,800	96	19	1
10726	1,1'-Biphenyl	92-52-4	< 190	190	94	1
10726	4-Bromophenyl-phenylether	101-55-3	< 190	190	94	1
10726	Butylbenzylphthalate	85-68-7	1,500	940	380	1
10726	Di-n-butylphthalate	84-74-2	< 940	940	380	1
10726	Caprolactam	105-60-2	< 940	940	190	1
10726	Carbazole	86-74-8	1,100	190	94	1
10726	4-Chloro-3-methylphenol	59-50-7	< 190	190	94	1
10726	4-Chloroaniline	106-47-8	< 380	380	190	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 190	190	94	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 190	190	94	1
10726	2-Chloronaphthalene	91-58-7	< 190	190	38	1
10726	2-Chlorophenol	95-57-8	< 190	190	94	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 190	190	94	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 190	190	94	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	6,600	96	19	1
10726	Dibenz(a,h)anthracene	53-70-3	1,100	96	19	1
10726	Dibenzofuran	132-64-9	650	190	94	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,900	1,900	570	1
10726	2,4-Dichlorophenol	120-83-2	< 190	190	94	1
10726	Diethylphthalate	84-66-2	< 940	940	380	1
10726	2,4-Dimethylphenol	105-67-9	860	190	94	1
10726	Dimethylphthalate	131-11-3	3,000	940	380	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,800	2,800	940	1
10726	2,4-Dinitrophenol	51-28-5	< 5,700	5,700	1,700	1
10726	2,4-Dinitrotoluene	121-14-2	< 940	940	380	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262918
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 07:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS90

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2,6-Dinitrotoluene	606-20-2	< 190	190	94	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	60,000	4,800	1,900	5
10726	Fluoranthene	206-44-0	14,000	96	19	1
10726	Fluorene	86-73-7	1,500	96	19	1
10726	Hexachlorobenzene	118-74-1	< 96	96	19	1
10726	Hexachlorobutadiene	87-68-3	< 190	190	94	1
10726	Hexachlorocyclopentadiene	77-47-4	< 2,800	2,800	940	1
10726	Hexachloroethane	67-72-1	< 940	940	190	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	3,600	96	19	1
10726	Isophorone	78-59-1	< 190	190	94	1
10726	2-Methylnaphthalene	91-57-6	400	96	19	1
10726	2-Methylphenol	95-48-7	< 190	190	94	1
10726	4-Methylphenol	106-44-5	690	190	94	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	470	96	19	1
10726	2-Nitroaniline	88-74-4	< 190	190	94	1
10726	3-Nitroaniline	99-09-2	< 940	940	380	1
10726	4-Nitroaniline	100-01-6	< 940	940	380	1
10726	Nitrobenzene	98-95-3	< 190	190	94	1
10726	2-Nitrophenol	88-75-5	< 190	190	94	1
10726	4-Nitrophenol	100-02-7	< 2,800	2,800	940	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 190	190	94	1
10726	N-Nitrosodiphenylamine	86-30-6	< 190	190	94	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 940	940	380	1
10726	Pentachlorophenol	87-86-5	< 960	960	190	1
10726	Phenanthrene	85-01-8	13,000	96	19	1
10726	Phenol	108-95-2	700	190	94	1
10726	Pyrene	129-00-0	14,000	96	19	1
10726	2,4,5-Trichlorophenol	95-95-4	< 190	190	94	1
10726	2,4,6-Trichlorophenol	88-06-2	< 190	190	94	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	900	1
13413	2-Nitrotoluene	88-72-2	< 130	130	45	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262918
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 07:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS90

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	3-Nitrotoluene	99-08-1	< 130	130	45	1
13413	4-Nitrotoluene	99-99-0	< 130	130	45	1
13413	PETN	78-11-5	< 2,700	2,700	900	1
13413	RDX	121-82-4	< 130	130	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	410	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	520	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	910	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	380	100
10885	PCB-1248	12672-29-6	13,000	1,900	380	100
10885	PCB-1254	11097-69-1	8,300	1,900	380	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	560	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,900	44.9	8.59	1
06946	Barium	7440-39-3	331	1.12	0.135	1
01650	Calcium	7440-70-2	12,400	44.9	3.74	1
06952	Cobalt	7440-48-4	14.0	1.12	0.0909	1
06953	Copper	7440-50-8	732	2.24	0.359	1
01654	Iron	7439-89-6	104,000	224	18.7	5
06955	Lead	7439-92-1	746	3.37	0.460	1
01657	Magnesium	7439-95-4	3,140	22.4	1.87	1
06958	Manganese	7439-96-5	1,070	1.12	0.135	1
06961	Nickel	7440-02-0	139	2.24	0.258	1
01662	Potassium	7440-09-7	2,230	112	18.8	1
01667	Sodium	7440-23-5	302	224	18.7	1
06970	Titanium	7440-32-6	761	2.24	0.415	1
06971	Vanadium	7440-62-2	41.6	1.12	0.258	1
06972	Zinc	7440-66-6	2,100	22.4	4.32	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	18.4	0.449	0.0740	2
06125	Arsenic	7440-38-2	12.3	0.897	0.168	2
06127	Beryllium	7440-41-7	0.351	0.224	0.0159	2
06128	Cadmium	7440-43-9	14.8	0.224	0.0516	2
06131	Chromium	7440-47-3	320	0.897	0.112	2
06141	Selenium	7782-49-2	< 0.897	0.897	0.112	2
06142	Silver	7440-22-4	1.03	0.224	0.0224	2
06145	Thallium	7440-28-0	< 0.224	0.224	0.0337	2

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-09-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262918
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 07:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS90

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 7471B**		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.23	1.09	0.0543	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 13:34	Jennifer K Howe	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 07:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 07:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016 07:40	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016 22:48	Ankitaben A Patel	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/11/2016 09:05	Linda M Hartenstine	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016 03:53	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016 07:34	Kirby B Turner	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016 09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016 14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016 07:51	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016 10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/07/2016 03:08	Matthew Machtinger	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 08:21	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 08:21	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/07/2016 03:08	Matthew Machtinger	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-09-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262918
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 07:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS90

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	03:08	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/07/2016	03:12	Matthew Machtinger	5
06955	Lead	SW-846 6010C	1	160620637001	03/07/2016	03:08	Matthew Machtinger	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	03:08	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	08:21	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	08:21	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	08:21	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	08:21	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016	03:08	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/07/2016	03:08	Matthew Machtinger	1
06972	Zinc	SW-846 6010C	1	160620637001	03/07/2016	03:12	Matthew Machtinger	5
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:41	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:39	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:39	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:39	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016	08:41	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016	17:39	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016	17:39	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016	17:39	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016	09:22	Damary Valentin	5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016	22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016	01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016	19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262919
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 08:48 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS92

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	110	18	6	0.78
11995	Benzene	71-43-2	5	4	0.4	0.78
11995	Bromodichloromethane	75-27-4	< 4	4	0.9	0.78
11995	Bromoform	75-25-2	< 4	4	0.9	0.78
11995	Bromomethane	74-83-9	< 4	4	2	0.78
11995	2-Butanone	78-93-3	21	9	4	0.78
11995	Carbon Disulfide	75-15-0	< 4	4	0.9	0.78
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.9	0.78
11995	Chlorobenzene	108-90-7	< 4	4	0.9	0.78
11995	Chloroethane	75-00-3	< 4	4	2	0.78
11995	Chloroform	67-66-3	< 4	4	0.9	0.78
11995	Chloromethane	74-87-3	< 4	4	2	0.78
11995	Cyclohexane	110-82-7	< 4	4	0.9	0.78
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.78
11995	Dibromochloromethane	124-48-1	< 4	4	0.9	0.78
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.9	0.78
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.9	0.78
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.9	0.78
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.9	0.78
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.78
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.9	0.78
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.9	0.78
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.9	0.78
11995	cis-1,2-Dichloroethene	156-59-2	< 4	4	0.9	0.78
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.9	0.78
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.9	0.78
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.9	0.78
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.9	0.78
11995	Ethylbenzene	100-41-4	21	4	0.9	0.78
11995	Freon 113	76-13-1	< 9	9	2	0.78
11995	2-Hexanone	591-78-6	< 9	9	3	0.78
11995	Isopropylbenzene	98-82-8	< 4	4	0.9	0.78
11995	Methyl Acetate	79-20-9	< 4	4	2	0.78
11995	Methyl Tertiary Butyl Ether	1634-04-4	180	4	0.4	0.78
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.78
11995	Methylcyclohexane	108-87-2	< 4	4	0.9	0.78
11995	Methylene Chloride	75-09-2	< 4	4	2	0.78
11995	Styrene	100-42-5	< 4	4	0.9	0.78
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.9	0.78
11995	Tetrachloroethene	127-18-4	< 4	4	0.9	0.78
11995	Toluene	108-88-3	< 4	4	0.9	0.78
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.9	0.78
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.9	0.78
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.9	0.78
11995	Trichloroethene	79-01-6	< 4	4	0.9	0.78
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.78
11995	Vinyl Chloride	75-01-4	< 4	4	0.9	0.78
11995	Xylene (Total)	1330-20-7	9	4	0.9	0.78

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for the initial analysis.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262919
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 08:48 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS92

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	Internal Standard - Initial Analysis	% Recovery				
	1,4-Dichlorobenzene-d4	-71				

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

GC/MS Semivolatiles	SW-846 8270D		ug/kg	ug/kg	ug/kg	
10726	Acenaphthene	83-32-9	430	95	19	1
10726	Acenaphthylene	208-96-8	< 95	95	19	1
10726	Acetophenone	98-86-2	< 190	190	93	1
10726	Anthracene	120-12-7	610	95	19	1
10726	Atrazine	1912-24-9	< 930	930	190	1
10726	Benzaldehyde	100-52-7	< 930	930	370	1
10726	Benzo(a)anthracene	56-55-3	1,100	95	19	1
10726	Benzo(a)pyrene	50-32-8	1,200	95	19	1
10726	Benzo(b)fluoranthene	205-99-2	1,800	95	19	1
10726	Benzo(g,h,i)perylene	191-24-2	1,100	95	19	1
10726	Benzo(k)fluoranthene	207-08-9	750	95	19	1
10726	1,1'-Biphenyl	92-52-4	< 190	190	93	1
10726	4-Bromophenyl-phenylether	101-55-3	< 190	190	93	1
10726	Butylbenzylphthalate	85-68-7	1,500	930	370	1
10726	Di-n-butylphthalate	84-74-2	< 930	930	370	1
10726	Caprolactam	105-60-2	< 930	930	190	1
10726	Carbazole	86-74-8	300	190	93	1
10726	4-Chloro-3-methylphenol	59-50-7	< 190	190	93	1
10726	4-Chloroaniline	106-47-8	< 370	370	190	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 190	190	93	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 190	190	93	1
10726	2-Chloronaphthalene	91-58-7	< 180	180	37	1
10726	2-Chlorophenol	95-57-8	< 190	190	93	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 190	190	93	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 190	190	93	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,300	95	19	1
10726	Dibenz(a,h)anthracene	53-70-3	290	95	19	1
10726	Dibenzofuran	132-64-9	190	190	93	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,900	1,900	560	1
10726	2,4-Dichlorophenol	120-83-2	< 190	190	93	1
10726	Diethylphthalate	84-66-2	< 930	930	370	1
10726	2,4-Dimethylphenol	105-67-9	< 190	190	93	1
10726	Dimethylphthalate	131-11-3	< 930	930	370	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,800	2,800	930	1
10726	2,4-Dinitrophenol	51-28-5	< 5,600	5,600	1,700	1
10726	2,4-Dinitrotoluene	121-14-2	< 930	930	370	1
10726	2,6-Dinitrotoluene	606-20-2	< 190	190	93	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,100	950	370	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262919
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 08:48 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS92

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Fluoranthene	206-44-0	1,900	95	19	1
10726	Fluorene	86-73-7	360	95	19	1
10726	Hexachlorobenzene	118-74-1	< 95	95	19	1
10726	Hexachlorobutadiene	87-68-3	< 190	190	93	1
10726	Hexachlorocyclopentadiene	77-47-4	< 2,800	2,800	930	1
10726	Hexachloroethane	67-72-1	< 930	930	190	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	960	95	19	1
10726	Isophorone	78-59-1	< 190	190	93	1
10726	2-Methylnaphthalene	91-57-6	170	95	19	1
10726	2-Methylphenol	95-48-7	< 190	190	93	1
10726	4-Methylphenol	106-44-5	< 190	190	93	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	360	95	19	1
10726	2-Nitroaniline	88-74-4	< 190	190	93	1
10726	3-Nitroaniline	99-09-2	< 930	930	370	1
10726	4-Nitroaniline	100-01-6	< 930	930	370	1
10726	Nitrobenzene	98-95-3	< 190	190	93	1
10726	2-Nitrophenol	88-75-5	< 190	190	93	1
10726	4-Nitrophenol	100-02-7	< 2,800	2,800	930	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 190	190	93	1
10726	N-Nitrosodiphenylamine	86-30-6	< 190	190	93	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 930	930	370	1
10726	Pentachlorophenol	87-86-5	< 950	950	190	1
10726	Phenanthrene	85-01-8	2,200	95	19	1
10726	Phenol	108-95-2	< 190	190	93	1
10726	Pyrene	129-00-0	2,200	95	19	1
10726	2,4,5-Trichlorophenol	95-95-4	< 190	190	93	1
10726	2,4,6-Trichlorophenol	88-06-2	< 190	190	93	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	870	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262919
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 08:48 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS92

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	PETN	78-11-5	< 2,600	2,600	870	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 380	380	80	20
10885	PCB-1221	11104-28-2	< 380	380	100	20
10885	PCB-1232	11141-16-5	< 380	380	180	20
10885	PCB-1242	53469-21-9	< 380	380	74	20
10885	PCB-1248	12672-29-6	4,400	380	74	20
10885	PCB-1254	11097-69-1	3,900	380	74	20
10885	PCB-1260	11096-82-5	< 380	380	110	20
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,800	223	42.8	5
06946	Barium	7440-39-3	285	1.12	0.134	1
01650	Calcium	7440-70-2	11,500	44.7	3.72	1
06952	Cobalt	7440-48-4	11.8	5.59	0.453	5
06953	Copper	7440-50-8	480	11.2	1.79	5
01654	Iron	7439-89-6	161,000	447	37.2	10
06955	Lead	7439-92-1	627	16.8	2.29	5
01657	Magnesium	7439-95-4	1,630	112	9.33	5
06958	Manganese	7439-96-5	951	1.12	0.134	1
06961	Nickel	7440-02-0	137	2.23	0.257	1
01662	Potassium	7440-09-7	722	112	18.8	1
01667	Sodium	7440-23-5	413	223	18.7	1
06970	Titanium	7440-32-6	333	11.2	2.07	5
06971	Vanadium	7440-62-2	31.6	5.59	1.29	5
06972	Zinc	7440-66-6	2,510	22.3	4.30	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	10.0	0.447	0.0738	2
06125	Arsenic	7440-38-2	26.1	0.894	0.168	2
06127	Beryllium	7440-41-7	1.25	0.223	0.0159	2
06128	Cadmium	7440-43-9	6.22	0.223	0.0514	2
06131	Chromium	7440-47-3	113	0.894	0.112	2
06141	Selenium	7782-49-2	< 0.894	0.894	0.112	2
06142	Silver	7440-22-4	0.356	0.223	0.0223	2
06145	Thallium	7440-28-0	< 0.223	0.223	0.0335	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.473	0.216	0.0108	1

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-09-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262919
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 08:48 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS92

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	11.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 15:26	Jennifer K Howe	0.78
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201606140260	03/01/2016 11:11	Mitchell R Washel	n.a.
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 08:48	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 08:48	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016 23:11	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016 04:30	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016 07:57	Jessica L Miller	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016 09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016 14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016 09:03	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016 10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 08:24	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 08:24	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5
01654	Iron	SW-846 6010C	1	160620637001	03/08/2016 19:12	Suzanne M Will	10
06955	Lead	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262919
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 08:48 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS92

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 08:24	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016 08:24	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 08:24	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 08:24	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5
06971	Vanadium	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5
06972	Zinc	SW-846 6010C	1	160620637001	03/07/2016 03:18	Matthew Machtinger	5
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:42	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 17:42	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 17:42	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 17:42	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/09/2016 08:42	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:42	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:42	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:42	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:05	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262920
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 09:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS96

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 24	24	8	1.07
11995	Benzene	71-43-2	< 6	6	0.6	1.07
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.07
11995	Bromoform	75-25-2	< 6	6	1	1.07
11995	Bromomethane	74-83-9	< 6	6	2	1.07
11995	2-Butanone	78-93-3	< 12	12	5	1.07
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.07
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.07
11995	Chlorobenzene	108-90-7	< 6	6	1	1.07
11995	Chloroethane	75-00-3	< 6	6	2	1.07
11995	Chloroform	67-66-3	< 6	6	1	1.07
11995	Chloromethane	74-87-3	< 6	6	2	1.07
11995	Cyclohexane	110-82-7	< 6	6	1	1.07
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	1.07
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.07
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.07
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.07
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.07
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.07
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	1.07
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.07
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.07
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.07
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.07
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.07
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.07
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.07
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.07
11995	Ethylbenzene	100-41-4	< 6	6	1	1.07
11995	Freon 113	76-13-1	< 12	12	2	1.07
11995	2-Hexanone	591-78-6	< 12	12	4	1.07
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.07
11995	Methyl Acetate	79-20-9	< 6	6	2	1.07
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.07
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	4	1.07
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.07
11995	Methylene Chloride	75-09-2	< 6	6	2	1.07
11995	Styrene	100-42-5	< 6	6	1	1.07
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.07
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.07
11995	Toluene	108-88-3	< 6	6	1	1.07
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.07
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.07
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.07
11995	Trichloroethene	79-01-6	< 6	6	1	1.07
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	1.07
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.07
11995	Xylene (Total)	1330-20-7	< 6	6	1	1.07

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262920
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 09:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS96

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 37	37	18	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 180	180	37	1
10726	Benzaldehyde	100-52-7	< 180	180	74	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 37	37	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 37	37	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	74	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	74	1
10726	Caprolactam	105-60-2	< 180	180	37	1
10726	Carbazole	86-74-8	< 37	37	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 37	37	18	1
10726	4-Chloroaniline	106-47-8	< 74	74	37	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 37	37	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 37	37	18	1
10726	2-Chloronaphthalene	91-58-7	< 36	36	7	1
10726	2-Chlorophenol	95-57-8	< 37	37	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 37	37	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 37	37	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 37	37	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 370	370	110	1
10726	2,4-Dichlorophenol	120-83-2	< 37	37	18	1
10726	Diethylphthalate	84-66-2	< 180	180	74	1
10726	2,4-Dimethylphenol	105-67-9	< 37	37	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	74	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 550	550	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	330	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	74	1
10726	2,6-Dinitrotoluene	606-20-2	< 37	37	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	74	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 37	37	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 550	550	180	1
10726	Hexachloroethane	67-72-1	< 180	180	37	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 37	37	18	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262920
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 09:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS96

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 37	37	18	1
10726	4-Methylphenol	106-44-5	< 37	37	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 37	37	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	74	1
10726	4-Nitroaniline	100-01-6	< 180	180	74	1
10726	Nitrobenzene	98-95-3	< 37	37	18	1
10726	2-Nitrophenol	88-75-5	< 37	37	18	1
10726	4-Nitrophenol	100-02-7	< 550	550	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 37	37	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 37	37	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	74	1
10726	Pentachlorophenol	87-86-5	< 190	190	37	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 37	37	18	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 37	37	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 37	37	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	890	1
13413	2-Nitrotoluene	88-72-2	< 130	130	45	1
13413	3-Nitrotoluene	99-08-1	< 130	130	45	1
13413	4-Nitrotoluene	99-99-0	< 130	130	45	1
13413	PETN	78-11-5	< 2,700	2,700	890	1
13413	RDX	121-82-4	< 130	130	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.0	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-09-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262920
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 09:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 19	19	5.1	1
10885	PCB-1232	11141-16-5	< 19	19	8.9	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	< 19	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.4	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	22,300	44.3	8.48	1
06946	Barium	7440-39-3	70.8	1.11	0.133	1
01650	Calcium	7440-70-2	431	44.3	3.69	1
06952	Cobalt	7440-48-4	7.54	1.11	0.0897	1
06953	Copper	7440-50-8	28.5	2.21	0.354	1
01654	Iron	7439-89-6	21,500	44.3	3.69	1
06955	Lead	7439-92-1	7.08	3.32	0.454	1
01657	Magnesium	7439-95-4	2,500	22.1	1.85	1
06958	Manganese	7439-96-5	181	1.11	0.133	1
06961	Nickel	7440-02-0	8.37	2.21	0.255	1
01662	Potassium	7440-09-7	2,040	111	18.6	1
01667	Sodium	7440-23-5	< 221	221	18.5	1
06970	Titanium	7440-32-6	1,240	2.21	0.410	1
06971	Vanadium	7440-62-2	46.0	1.11	0.255	1
06972	Zinc	7440-66-6	36.9	4.43	0.853	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.443	0.443	0.0731	2
06125	Arsenic	7440-38-2	1.09	0.886	0.166	2
06127	Beryllium	7440-41-7	0.582	0.221	0.0157	2
06128	Cadmium	7440-43-9	< 0.221	0.221	0.0509	2
06131	Chromium	7440-47-3	20.9	0.886	0.111	2
06141	Selenium	7782-49-2	< 0.886	0.886	0.111	2
06142	Silver	7440-22-4	< 0.221	0.221	0.0221	2
06145	Thallium	7440-28-0	0.264	0.221	0.0332	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.219	0.219	0.0110	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-09-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262920
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 09:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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Atlanta GA 30309

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General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	12:04	Jennifer K Howe	1.07
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	09:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	09:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	09:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	23:35	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016	06:20	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	08:08	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	09:20	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	03:22	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	03:22	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016	03:22	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	08:35	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:44	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:51	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:51	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:51	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/07/2016	17:51	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-09-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262920
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 09:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS96

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:51	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:51	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:51	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:07	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262921
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 10:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS91

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 23	23	8	1.11
11995	Benzene	71-43-2	< 6	6	0.6	1.11
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.11
11995	Bromoform	75-25-2	< 6	6	1	1.11
11995	Bromomethane	74-83-9	< 6	6	2	1.11
11995	2-Butanone	78-93-3	< 11	11	5	1.11
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.11
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.11
11995	Chlorobenzene	108-90-7	< 6	6	1	1.11
11995	Chloroethane	75-00-3	< 6	6	2	1.11
11995	Chloroform	67-66-3	< 6	6	1	1.11
11995	Chloromethane	74-87-3	< 6	6	2	1.11
11995	Cyclohexane	110-82-7	< 6	6	1	1.11
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	1.11
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.11
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.11
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.11
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.11
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.11
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	1.11
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.11
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.11
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.11
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.11
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.11
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.11
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.11
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.11
11995	Ethylbenzene	100-41-4	< 6	6	1	1.11
11995	Freon 113	76-13-1	< 11	11	2	1.11
11995	2-Hexanone	591-78-6	< 11	11	3	1.11
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.11
11995	Methyl Acetate	79-20-9	< 6	6	2	1.11
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.11
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.11
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.11
11995	Methylene Chloride	75-09-2	8	6	2	1.11
11995	Styrene	100-42-5	< 6	6	1	1.11
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.11
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.11
11995	Toluene	108-88-3	< 6	6	1	1.11
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.11
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.11
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.11
11995	Trichloroethene	79-01-6	< 6	6	1	1.11
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	1.11
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.11
11995	Xylene (Total)	1330-20-7	< 6	6	1	1.11

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262921
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 10:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS91

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 17	17	3	1
10726	Acenaphthylene	208-96-8	< 17	17	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 17	17	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	68	1
10726	Benzo(a)anthracene	56-55-3	< 17	17	3	1
10726	Benzo(a)pyrene	50-32-8	< 17	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 17	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 17	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 17	17	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	68	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	68	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 68	68	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 33	33	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 17	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 17	17	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	68	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	68	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 510	510	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	68	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 170	170	68	1
10726	Fluoranthene	206-44-0	< 17	17	3	1
10726	Fluorene	86-73-7	< 17	17	3	1
10726	Hexachlorobenzene	118-74-1	< 17	17	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 510	510	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 17	17	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 17	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-09-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262921
LL Group # 1635589
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Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 10:20 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS91

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 34	34	17	1
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 17	17	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	68	1
10726	4-Nitroaniline	100-01-6	< 170	170	68	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 510	510	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	68	1
10726	Pentachlorophenol	87-86-5	< 170	170	34	1
10726	Phenanthrene	85-01-8	< 17	17	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 17	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	39	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	39	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 290	290	98	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 290	290	98	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	39	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	39	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	39	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	39	1
13413	HMX	2691-41-0	< 290	290	98	1
13413	Nitrobenzene	98-95-3	< 290	290	98	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	780	1
13413	2-Nitrotoluene	88-72-2	< 120	120	39	1
13413	3-Nitrotoluene	99-08-1	< 120	120	39	1
13413	4-Nitrotoluene	99-99-0	< 120	120	39	1
13413	PETN	78-11-5	< 2,400	2,400	780	1
13413	RDX	121-82-4	< 120	120	39	1
13413	Tetryl	479-45-8	< 290	290	98	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	39	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	39	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.7	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-09-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262921
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 10:20 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS91

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 17	17	4.7	1
10885	PCB-1232	11141-16-5	< 17	17	8.1	1
10885	PCB-1242	53469-21-9	< 17	17	3.3	1
10885	PCB-1248	12672-29-6	< 17	17	3.3	1
10885	PCB-1254	11097-69-1	< 17	17	3.3	1
10885	PCB-1260	11096-82-5	< 17	17	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,940	39.2	7.52	1
06946	Barium	7440-39-3	21.2	0.981	0.118	1
01650	Calcium	7440-70-2	172	39.2	3.27	1
06952	Cobalt	7440-48-4	1.88	0.981	0.0795	1
06953	Copper	7440-50-8	7.10	1.96	0.314	1
01654	Iron	7439-89-6	5,140	39.2	3.27	1
06955	Lead	7439-92-1	< 2.94	2.94	0.402	1
01657	Magnesium	7439-95-4	580	19.6	1.64	1
06958	Manganese	7439-96-5	110	0.981	0.118	1
06961	Nickel	7440-02-0	2.15	1.96	0.226	1
01662	Potassium	7440-09-7	491	98.1	16.5	1
01667	Sodium	7440-23-5	< 196	196	16.4	1
06970	Titanium	7440-32-6	343	1.96	0.363	1
06971	Vanadium	7440-62-2	10.8	0.981	0.226	1
06972	Zinc	7440-66-6	10.5	3.92	0.755	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.392	0.392	0.0648	2
06125	Arsenic	7440-38-2	< 0.785	0.785	0.147	2
06127	Beryllium	7440-41-7	< 0.196	0.196	0.0139	2
06128	Cadmium	7440-43-9	< 0.196	0.196	0.0451	2
06131	Chromium	7440-47-3	5.49	0.785	0.0981	2
06141	Selenium	7782-49-2	< 0.785	0.785	0.0981	2
06142	Silver	7440-22-4	< 0.196	0.196	0.0196	2
06145	Thallium	7440-28-0	< 0.196	0.196	0.0294	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.193	0.193	0.0097	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	2.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-09-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262921
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 10:20 by TK

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1200 Peachtree Street, NE
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CPS91

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	12:27	Jennifer K Howe	1.11
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	10:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	10:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	10:20	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/10/2016	23:57	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/06/2016	06:57	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	08:20	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620007A	03/03/2016	14:00	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	09:39	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	03:28	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	03:28	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/07/2016	03:28	Matthew Machtinger	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	08:38	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:46	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:54	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:54	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:54	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/07/2016	17:54	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-09-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262921
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 10:20 by TK

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Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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CPS91

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:54	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:54	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:54	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:09	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-7-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262922
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU7

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	28	19	7	0.83
11995	Benzene	71-43-2	< 5	5	0.5	0.83
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.83
11995	Bromoform	75-25-2	< 5	5	0.9	0.83
11995	Bromomethane	74-83-9	< 5	5	2	0.83
11995	2-Butanone	78-93-3	< 9	9	4	0.83
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.83
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.83
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.83
11995	Chloroethane	75-00-3	< 5	5	2	0.83
11995	Chloroform	67-66-3	< 5	5	0.9	0.83
11995	Chloromethane	74-87-3	< 5	5	2	0.83
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.83
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.83
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.83
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.83
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.83
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.83
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.83
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.83
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.83
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.83
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.83
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.83
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.83
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.83
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.83
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.83
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.83
11995	Freon 113	76-13-1	< 9	9	2	0.83
11995	2-Hexanone	591-78-6	< 9	9	3	0.83
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.83
11995	Methyl Acetate	79-20-9	< 5	5	2	0.83
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.83
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.83
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.83
11995	Methylene Chloride	75-09-2	< 5	5	2	0.83
11995	Styrene	100-42-5	< 5	5	0.9	0.83
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.83
11995	Tetrachloroethene	127-18-4	< 5	5	0.9	0.83
11995	Toluene	108-88-3	< 5	5	0.9	0.83
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.83
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.83
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.83
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.83
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.83
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.83
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.83

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-7-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262922
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU7

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 19	19	4	1
10726	Acenaphthylene	208-96-8	< 19	19	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	< 19	19	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	76	1
10726	Benzo(a)anthracene	56-55-3	< 19	19	4	1
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 19	19	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 19	19	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 19	19	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	76	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	76	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 76	76	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 38	38	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 19	19	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 19	19	4	1
10726	Dibenzofuran	132-64-9	< 38	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	76	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	76	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 570	570	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	76	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 190	190	76	1
10726	Fluoranthene	206-44-0	< 19	19	4	1
10726	Fluorene	86-73-7	< 19	19	4	1
10726	Hexachlorobenzene	118-74-1	< 19	19	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 570	570	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 19	19	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	< 19	19	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-7-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262922
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU7

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 38	38	19	1
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 19	19	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	76	1
10726	4-Nitroaniline	100-01-6	< 190	190	76	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 570	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	76	1
10726	Pentachlorophenol	87-86-5	< 190	190	38	1
10726	Phenanthrene	85-01-8	< 19	19	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	< 19	19	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	45	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	890	1
13413	2-Nitrotoluene	88-72-2	< 130	130	45	1
13413	3-Nitrotoluene	99-08-1	< 130	130	45	1
13413	4-Nitrotoluene	99-99-0	< 130	130	45	1
13413	PETN	78-11-5	< 2,700	2,700	890	1
13413	RDX	121-82-4	< 130	130	45	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.1	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-7-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262922
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU7

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 19	19	5.3	1
10885	PCB-1232	11141-16-5	< 19	19	9.1	1
10885	PCB-1242	53469-21-9	< 19	19	3.8	1
10885	PCB-1248	12672-29-6	< 19	19	3.8	1
10885	PCB-1254	11097-69-1	< 19	19	3.8	1
10885	PCB-1260	11096-82-5	< 19	19	5.6	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	24,000	46.0	8.80	1
06946	Barium	7440-39-3	71.6	1.15	0.138	1
01650	Calcium	7440-70-2	404	46.0	3.83	1
06952	Cobalt	7440-48-4	6.48	1.15	0.0931	1
06953	Copper	7440-50-8	28.9	2.30	0.368	1
01654	Iron	7439-89-6	21,700	46.0	3.83	1
06955	Lead	7439-92-1	7.70	3.45	0.471	1
01657	Magnesium	7439-95-4	2,520	23.0	1.92	1
06958	Manganese	7439-96-5	204	1.15	0.138	1
06961	Nickel	7440-02-0	8.91	2.30	0.264	1
01662	Potassium	7440-09-7	1,990	115	19.3	1
01667	Sodium	7440-23-5	< 230	230	19.2	1
06970	Titanium	7440-32-6	1,230	2.30	0.425	1
06971	Vanadium	7440-62-2	46.5	1.15	0.264	1
06972	Zinc	7440-66-6	39.6	4.60	0.885	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.460	0.460	0.0759	2
06125	Arsenic	7440-38-2	1.34	0.920	0.172	2
06127	Beryllium	7440-41-7	0.634	0.230	0.0163	2
06128	Cadmium	7440-43-9	< 0.230	0.230	0.0529	2
06131	Chromium	7440-47-3	22.0	0.920	0.115	2
06141	Selenium	7782-49-2	< 0.920	0.920	0.115	2
06142	Silver	7440-22-4	< 0.230	0.230	0.0230	2
06145	Thallium	7440-28-0	0.248	0.230	0.0345	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.226	0.226	0.0113	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	13.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-7-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262922
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU7

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016	12:49	Jennifer K Howe	0.83
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	12:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/11/2016	00:20	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	10:00	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160640033A	03/08/2016	08:31	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160640033A	03/07/2016	09:00	Jessica M Velez	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	09:56	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016	03:40	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016	03:40	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016	03:40	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	160620637001	03/04/2016	08:41	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016	08:47	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016	17:57	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016	17:57	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016	17:57	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/07/2016	17:57	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-7-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262922
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU7

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 17:57	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 17:57	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 17:57	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:11	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262923
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU4

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	57	20	7	0.87
11995	Benzene	71-43-2	< 5	5	0.5	0.87
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.87
11995	Bromoform	75-25-2	< 5	5	1	0.87
11995	Bromomethane	74-83-9	< 5	5	2	0.87
11995	2-Butanone	78-93-3	< 10	10	4	0.87
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.87
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.87
11995	Chlorobenzene	108-90-7	< 5	5	1	0.87
11995	Chloroethane	75-00-3	< 5	5	2	0.87
11995	Chloroform	67-66-3	< 5	5	1	0.87
11995	Chloromethane	74-87-3	< 5	5	2	0.87
11995	Cyclohexane	110-82-7	< 5	5	1	0.87
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.87
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.87
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.87
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.87
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.87
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.87
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.87
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.87
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.87
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.87
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.87
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.87
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.87
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.87
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.87
11995	Ethylbenzene	100-41-4	< 5	5	1	0.87
11995	Freon 113	76-13-1	< 10	10	2	0.87
11995	2-Hexanone	591-78-6	< 10	10	3	0.87
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.87
11995	Methyl Acetate	79-20-9	< 5	5	2	0.87
11995	Methyl Tertiary Butyl Ether	1634-04-4	14	5	0.5	0.87
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.87
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.87
11995	Methylene Chloride	75-09-2	< 5	5	2	0.87
11995	Styrene	100-42-5	< 5	5	1	0.87
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.87
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.87
11995	Toluene	108-88-3	< 5	5	1	0.87
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.87
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.87
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.87
11995	Trichloroethene	79-01-6	< 5	5	1	0.87
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.87
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.87
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.87

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262923
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU4

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	220	190	37	1
10726	Acenaphthylene	208-96-8	< 190	190	37	1
10726	Acetophenone	98-86-2	< 370	370	190	1
10726	Anthracene	120-12-7	770	190	37	1
10726	Atrazine	1912-24-9	< 1,900	1,900	370	1
10726	Benzaldehyde	100-52-7	< 1,900	1,900	740	1
10726	Benzo(a)anthracene	56-55-3	1,600	190	37	1
10726	Benzo(a)pyrene	50-32-8	1,800	190	37	1
10726	Benzo(b)fluoranthene	205-99-2	3,000	190	37	1
10726	Benzo(g,h,i)perylene	191-24-2	1,800	190	37	1
10726	Benzo(k)fluoranthene	207-08-9	1,100	190	37	1
10726	1,1'-Biphenyl	92-52-4	< 370	370	190	1
10726	4-Bromophenyl-phenylether	101-55-3	< 370	370	190	1
10726	Butylbenzylphthalate	85-68-7	< 1,900	1,900	740	1
10726	Di-n-butylphthalate	84-74-2	< 1,900	1,900	740	1
10726	Caprolactam	105-60-2	< 1,900	1,900	370	1
10726	Carbazole	86-74-8	< 370	370	190	1
10726	4-Chloro-3-methylphenol	59-50-7	< 370	370	190	1
10726	4-Chloroaniline	106-47-8	< 740	740	370	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 370	370	190	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 370	370	190	1
10726	2-Chloronaphthalene	91-58-7	< 370	370	74	1
10726	2-Chlorophenol	95-57-8	< 370	370	190	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 370	370	190	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 370	370	190	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,600	190	37	1
10726	Dibenz(a,h)anthracene	53-70-3	460	190	37	1
10726	Dibenzofuran	132-64-9	< 370	370	190	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 3,700	3,700	1,100	1
10726	2,4-Dichlorophenol	120-83-2	< 370	370	190	1
10726	Diethylphthalate	84-66-2	< 1,900	1,900	740	1
10726	2,4-Dimethylphenol	105-67-9	< 370	370	190	1
10726	Dimethylphthalate	131-11-3	4,800	1,900	740	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 5,600	5,600	1,900	1
10726	2,4-Dinitrophenol	51-28-5	< 11,000	11,000	3,300	1
10726	2,4-Dinitrotoluene	121-14-2	< 1,900	1,900	740	1
10726	2,6-Dinitrotoluene	606-20-2	< 370	370	190	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	19,000	1,900	740	1
10726	Fluoranthene	206-44-0	3,100	190	37	1
10726	Fluorene	86-73-7	250	190	37	1
10726	Hexachlorobenzene	118-74-1	< 190	190	37	1
10726	Hexachlorobutadiene	87-68-3	< 370	370	190	1
10726	Hexachlorocyclopentadiene	77-47-4	< 5,600	5,600	1,900	1
10726	Hexachloroethane	67-72-1	< 1,900	1,900	370	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,500	190	37	1
10726	Isophorone	78-59-1	< 370	370	190	1
10726	2-Methylnaphthalene	91-57-6	230	190	37	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262923
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU4

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 370	370	190	1
10726	4-Methylphenol	106-44-5	< 370	370	190	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	280	190	37	1
10726	2-Nitroaniline	88-74-4	< 370	370	190	1
10726	3-Nitroaniline	99-09-2	< 1,900	1,900	740	1
10726	4-Nitroaniline	100-01-6	< 1,900	1,900	740	1
10726	Nitrobenzene	98-95-3	< 370	370	190	1
10726	2-Nitrophenol	88-75-5	< 370	370	190	1
10726	4-Nitrophenol	100-02-7	< 5,600	5,600	1,900	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 370	370	190	1
10726	N-Nitrosodiphenylamine	86-30-6	< 370	370	190	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 1,900	1,900	740	1
10726	Pentachlorophenol	87-86-5	< 1,900	1,900	370	1
10726	Phenanthrene	85-01-8	2,200	190	37	1
10726	Phenol	108-95-2	< 370	370	190	1
10726	Pyrene	129-00-0	3,300	190	37	1
10726	2,4,5-Trichlorophenol	95-95-4	< 370	370	190	1
10726	2,4,6-Trichlorophenol	88-06-2	< 370	370	190	1

Reporting limits were raised due to interference from the sample matrix.

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect.
The reported data is from the initial analysis of the sample.

Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	890	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,700	2,700	890	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262923
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU4

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 950	950	200	50
10885	PCB-1221	11104-28-2	< 950	950	260	50
10885	PCB-1232	11141-16-5	< 950	950	450	50
10885	PCB-1242	53469-21-9	< 950	950	180	50
10885	PCB-1248	12672-29-6	7,300	950	180	50
10885	PCB-1254	11097-69-1	4,700	950	180	50
10885	PCB-1260	11096-82-5	< 950	950	270	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,300	43.8	8.38	1
06946	Barium	7440-39-3	259	1.09	0.131	1
01650	Calcium	7440-70-2	11,700	43.8	3.64	1
06952	Cobalt	7440-48-4	13.4	1.09	0.0887	1
06953	Copper	7440-50-8	459	2.19	0.350	1
01654	Iron	7439-89-6	103,000	219	18.2	5
06955	Lead	7439-92-1	603	3.28	0.449	1
01657	Magnesium	7439-95-4	2,660	21.9	1.83	1
06958	Manganese	7439-96-5	1,020	1.09	0.131	1
06961	Nickel	7440-02-0	155	2.19	0.252	1
01662	Potassium	7440-09-7	1,690	109	18.4	1
01667	Sodium	7440-23-5	279	219	18.3	1
06970	Titanium	7440-32-6	616	2.19	0.405	1
06971	Vanadium	7440-62-2	33.2	1.09	0.252	1
06972	Zinc	7440-66-6	1,860	21.9	4.21	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	15.2	0.438	0.0722	2
06125	Arsenic	7440-38-2	11.6	0.876	0.164	2
06127	Beryllium	7440-41-7	0.411	0.219	0.0155	2
06128	Cadmium	7440-43-9	10.8	0.219	0.0503	2
06131	Chromium	7440-47-3	320	0.876	0.109	2
06141	Selenium	7782-49-2	12.9	0.876	0.109	2
06142	Silver	7440-22-4	0.706	0.219	0.0219	2
06145	Thallium	7440-28-0	< 0.219	0.219	0.0328	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.981	0.544	0.0272	2.5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262923
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU4

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	11.3	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 15:49	Jennifer K Howe	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016 12:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/11/2016 10:37	Linda M Hartenstine	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016 10:37	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016 04:25	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016 21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016 14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016 10:14	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016 10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160620637001	03/07/2016 03:44	Matthew Machtinger	1
06946	Barium	SW-846 6010C	1	160620637001	03/04/2016 08:45	Joanne M Gates	1
01650	Calcium	SW-846 6010C	1	160620637001	03/04/2016 08:45	Joanne M Gates	1
06952	Cobalt	SW-846 6010C	1	160620637001	03/07/2016 03:44	Matthew Machtinger	1
06953	Copper	SW-846 6010C	1	160620637001	03/07/2016 03:44	Matthew Machtinger	1
01654	Iron	SW-846 6010C	1	160620637001	03/07/2016 03:47	Matthew Machtinger	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262923
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU4

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	1	160620637001	03/07/2016 03:44	Matthew Machtinger	1
01657	Magnesium	SW-846 6010C	1	160620637001	03/07/2016 03:44	Matthew Machtinger	1
06958	Manganese	SW-846 6010C	1	160620637001	03/04/2016 08:45	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	160620637001	03/04/2016 08:45	Joanne M Gates	1
01662	Potassium	SW-846 6010C	1	160620637001	03/04/2016 08:45	Joanne M Gates	1
01667	Sodium	SW-846 6010C	1	160620637001	03/04/2016 08:45	Joanne M Gates	1
06970	Titanium	SW-846 6010C	1	160620637001	03/07/2016 03:44	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160620637001	03/07/2016 03:44	Matthew Machtinger	1
06972	Zinc	SW-846 6010C	1	160620637001	03/07/2016 03:47	Matthew Machtinger	5
06124	Antimony	SW-846 6020A	1	160620637001A	03/09/2016 08:49	Deborah A Krady	2
06125	Arsenic	SW-846 6020A	1	160620637001A	03/07/2016 18:00	Deborah A Krady	2
06127	Beryllium	SW-846 6020A	1	160620637001A	03/07/2016 18:00	Deborah A Krady	2
06128	Cadmium	SW-846 6020A	1	160620637001A	03/07/2016 18:00	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160620637001A	03/07/2016 18:00	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160620637001B	03/07/2016 18:00	Deborah A Krady	2
06142	Silver	SW-846 6020A	1	160620637001A	03/07/2016 18:00	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160620637001A	03/07/2016 18:00	Deborah A Krady	2
00159	Mercury	SW-846 7471B	1	160620638001	03/03/2016 09:28	Damary Valentin	2.5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160620637001	03/02/2016 22:01	Annamaria Kuhns	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160620638001	03/03/2016 01:30	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-01-022616 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8262924
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:06

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPTB1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 20	20	7	1
11995	Benzene	71-43-2	< 5	5	0.5	1
11995	Bromodichloromethane	75-27-4	< 5	5	1	1
11995	Bromoform	75-25-2	< 5	5	1	1
11995	Bromomethane	74-83-9	< 5	5	2	1
11995	2-Butanone	78-93-3	< 10	10	4	1
11995	Carbon Disulfide	75-15-0	< 5	5	1	1
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1
11995	Chlorobenzene	108-90-7	< 5	5	1	1
11995	Chloroethane	75-00-3	< 5	5	2	1
11995	Chloroform	67-66-3	< 5	5	1	1
11995	Chloromethane	74-87-3	< 5	5	2	1
11995	Cyclohexane	110-82-7	< 5	5	1	1
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11995	Dibromochloromethane	124-48-1	< 5	5	1	1
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1
11995	Ethylbenzene	100-41-4	< 5	5	1	1
11995	Freon 113	76-13-1	< 10	10	2	1
11995	2-Hexanone	591-78-6	< 10	10	3	1
11995	Isopropylbenzene	98-82-8	< 5	5	1	1
11995	Methyl Acetate	79-20-9	< 5	5	2	1
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11995	Methylcyclohexane	108-87-2	< 5	5	1	1
11995	Methylene Chloride	75-09-2	< 5	5	2	1
11995	Styrene	100-42-5	< 5	5	1	1
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1
11995	Tetrachloroethene	127-18-4	< 5	5	1	1
11995	Toluene	108-88-3	< 5	5	1	1
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1
11995	Trichloroethene	79-01-6	< 5	5	1	1
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1
11995	Vinyl Chloride	75-01-4	< 5	5	1	1
11995	Xylene (Total)	1330-20-7	< 5	5	1	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-01-022616 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8262924
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:06

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPTB1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160691AA	03/09/2016 09:27	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 18:06	Client Supplied	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262925
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	46	22	8	0.91
11995	Benzene	71-43-2	< 5	5	0.5	0.91
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.91
11995	Bromoform	75-25-2	< 5	5	1	0.91
11995	Bromomethane	74-83-9	< 5	5	2	0.91
11995	2-Butanone	78-93-3	< 11	11	4	0.91
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.91
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.91
11995	Chlorobenzene	108-90-7	< 5	5	1	0.91
11995	Chloroethane	75-00-3	< 5	5	2	0.91
11995	Chloroform	67-66-3	< 5	5	1	0.91
11995	Chloromethane	74-87-3	< 5	5	2	0.91
11995	Cyclohexane	110-82-7	< 5	5	1	0.91
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.91
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.91
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.91
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.91
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.91
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.91
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.91
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.91
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.91
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.91
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.91
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.91
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.91
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.91
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.91
11995	Ethylbenzene	100-41-4	< 5	5	1	0.91
11995	Freon 113	76-13-1	< 11	11	2	0.91
11995	2-Hexanone	591-78-6	< 11	11	3	0.91
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.91
11995	Methyl Acetate	79-20-9	< 5	5	2	0.91
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.91
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	0.91
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.91
11995	Methylene Chloride	75-09-2	< 5	5	2	0.91
11995	Styrene	100-42-5	< 5	5	1	0.91
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.91
11995	Tetrachloroethene	127-18-4	33	5	1	0.91
11995	Toluene	108-88-3	< 5	5	1	0.91
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.91
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.91
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.91
11995	Trichloroethene	79-01-6	< 5	5	1	0.91
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.91
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.91
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.91

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are

*=This limit was used in the evaluation of the final result

Sample Description: SBO-01-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262925
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	from the initial analysis of the sample.					
	Internal Standard - Initial Analysis	% Recovery				
	Chlorobenzene-d5	-58				
	1,4-Dichlorobenzene-d4	-77				
	Internal Standard - Re-analysis	% Recovery				
	1,4-Dichlorobenzene-d4	-58				
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	190	100	20	1
10726	Acenaphthylene	208-96-8	< 100	100	20	1
10726	Acetophenone	98-86-2	< 200	200	100	1
10726	Anthracene	120-12-7	320	100	20	1
10726	Atrazine	1912-24-9	< 1,000	1,000	200	1
10726	Benzaldehyde	100-52-7	< 1,000	1,000	400	1
10726	Benzo(a)anthracene	56-55-3	1,500	100	20	1
10726	Benzo(a)pyrene	50-32-8	2,500	100	20	1
10726	Benzo(b)fluoranthene	205-99-2	3,000	100	20	1
10726	Benzo(g,h,i)perylene	191-24-2	2,900	100	20	1
10726	Benzo(k)fluoranthene	207-08-9	1,300	100	20	1
10726	1,1'-Biphenyl	92-52-4	500	200	100	1
10726	4-Bromophenyl-phenylether	101-55-3	< 200	200	100	1
10726	Butylbenzylphthalate	85-68-7	< 1,000	1,000	400	1
10726	Di-n-butylphthalate	84-74-2	< 1,000	1,000	400	1
10726	Caprolactam	105-60-2	< 1,000	1,000	200	1
10726	Carbazole	86-74-8	< 200	200	100	1
10726	4-Chloro-3-methylphenol	59-50-7	< 200	200	100	1
10726	4-Chloroaniline	106-47-8	< 400	400	200	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 200	200	100	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 200	200	100	1
10726	2-Chloronaphthalene	91-58-7	< 200	200	40	1
10726	2-Chlorophenol	95-57-8	< 200	200	100	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 200	200	100	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 200	200	100	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,700	100	20	1
10726	Dibenz(a,h)anthracene	53-70-3	520	100	20	1
10726	Dibenzofuran	132-64-9	< 200	200	100	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 2,000	2,000	600	1
10726	2,4-Dichlorophenol	120-83-2	< 200	200	100	1
10726	Diethylphthalate	84-66-2	< 1,000	1,000	400	1
10726	2,4-Dimethylphenol	105-67-9	< 200	200	100	1
10726	Dimethylphthalate	131-11-3	< 1,000	1,000	400	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 3,000	3,000	1,000	1
10726	2,4-Dinitrophenol	51-28-5	< 6,000	6,000	1,800	1
10726	2,4-Dinitrotoluene	121-14-2	< 1,000	1,000	400	1
10726	2,6-Dinitrotoluene	606-20-2	< 200	200	100	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,100	1,000	400	1
10726	Fluoranthene	206-44-0	1,900	100	20	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-01-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262925
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Fluorene	86-73-7	510	100	20	1
10726	Hexachlorobenzene	118-74-1	< 100	100	20	1
10726	Hexachlorobutadiene	87-68-3	< 200	200	100	1
10726	Hexachlorocyclopentadiene	77-47-4	< 3,000	3,000	1,000	1
10726	Hexachloroethane	67-72-1	< 1,000	1,000	200	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	2,300	100	20	1
10726	Isophorone	78-59-1	< 200	200	100	1
10726	2-Methylnaphthalene	91-57-6	280	100	20	1
10726	2-Methylphenol	95-48-7	< 200	200	100	1
10726	4-Methylphenol	106-44-5	< 200	200	100	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	280	100	20	1
10726	2-Nitroaniline	88-74-4	< 200	200	100	1
10726	3-Nitroaniline	99-09-2	< 1,000	1,000	400	1
10726	4-Nitroaniline	100-01-6	< 1,000	1,000	400	1
10726	Nitrobenzene	98-95-3	< 200	200	100	1
10726	2-Nitrophenol	88-75-5	< 200	200	100	1
10726	4-Nitrophenol	100-02-7	< 3,000	3,000	1,000	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 200	200	100	1
10726	N-Nitrosodiphenylamine	86-30-6	< 200	200	100	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 1,000	1,000	400	1
10726	Pentachlorophenol	87-86-5	< 1,000	1,000	200	1
10726	Phenanthrene	85-01-8	1,500	100	20	1
10726	Phenol	108-95-2	340	200	100	1
10726	Pyrene	129-00-0	2,200	100	20	1
10726	2,4,5-Trichlorophenol	95-95-4	< 200	200	100	1
10726	2,4,6-Trichlorophenol	88-06-2	< 200	200	100	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	47	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	47	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 350	350	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 350	350	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	47	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	47	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	47	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	47	1
13413	HMX	2691-41-0	< 350	350	120	1
13413	Nitrobenzene	98-95-3	< 350	350	120	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	940	1
13413	2-Nitrotoluene	88-72-2	< 140	140	47	1
13413	3-Nitrotoluene	99-08-1	< 140	140	47	1
13413	4-Nitrotoluene	99-99-0	< 140	140	47	1
13413	PETN	78-11-5	< 2,800	2,800	940	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-01-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262925
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	RDX	121-82-4	< 140	140	47	1
13413	Tetryl	479-45-8	< 350	350	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	47	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	47	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 4,000	4,000	850	200
10885	PCB-1221	11104-28-2	< 4,000	4,000	1,100	200
10885	PCB-1232	11141-16-5	< 4,000	4,000	1,900	200
10885	PCB-1242	53469-21-9	< 4,000	4,000	780	200
10885	PCB-1248	12672-29-6	40,000	4,000	780	200
10885	PCB-1254	11097-69-1	10,000	4,000	780	200
10885	PCB-1260	11096-82-5	< 4,000	4,000	1,200	200
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.0	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	8,990	183	35.1	5
06946	Barium	7440-39-3	221	0.915	0.110	1
01650	Calcium	7440-70-2	8,320	36.6	3.05	1
06952	Cobalt	7440-48-4	16.5	4.58	0.371	5
06953	Copper	7440-50-8	1,380	9.15	1.46	5
01654	Iron	7439-89-6	172,000	366	30.5	10
06955	Lead	7439-92-1	714	13.7	1.88	5
01657	Magnesium	7439-95-4	1,830	18.3	1.53	1
06958	Manganese	7439-96-5	1,280	0.915	0.110	1
06961	Nickel	7440-02-0	178	1.83	0.211	1
01662	Potassium	7440-09-7	933	91.5	15.4	1
01667	Sodium	7440-23-5	191	183	15.3	1
06970	Titanium	7440-32-6	425	9.15	1.69	5
06971	Vanadium	7440-62-2	28.6	4.58	1.05	5
06972	Zinc	7440-66-6	1,730	18.3	3.52	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	9.47	0.366	0.0604	2
06125	Arsenic	7440-38-2	36.2	0.732	0.137	2
06127	Beryllium	7440-41-7	0.433	0.183	0.0130	2
06128	Cadmium	7440-43-9	9.00	0.183	0.0421	2
06131	Chromium	7440-47-3	238	0.732	0.0915	2
06141	Selenium	7782-49-2	1.11	0.732	0.0915	2
06142	Silver	7440-22-4	0.698	0.183	0.0183	2
06145	Thallium	7440-28-0	< 0.183	0.183	0.0275	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.616	0.234	0.0117	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262925
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	16.6	0.50	0.50	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/10/2016 00:51	Christopher G Torres	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016 11:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016 11:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016 11:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/11/2016 01:06	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016 11:14	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/11/2016 05:17	Kirby B Turner	200
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016 21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016 14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016 10:32	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016 10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016 10:01	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016 09:06	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016 09:06	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016 10:01	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016 16:45	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/09/2016 02:46	Matthew Machtinger	10
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016 10:01	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016 09:06	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016 09:06	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016 09:06	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262925
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016 09:06	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016 09:06	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016 10:01	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016 10:01	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016 10:01	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016 06:44	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016 06:44	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016 06:44	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016 13:46	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 13:46	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:44	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016 13:46	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:44	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:00	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-01-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262926
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,600	1,600	560	69.48
11995	Benzene	71-43-2	< 400	400	40	69.48
11995	Bromodichloromethane	75-27-4	< 400	400	80	69.48
11995	Bromoform	75-25-2	< 400	400	80	69.48
11995	Bromomethane	74-83-9	< 400	400	160	69.48
11995	2-Butanone	78-93-3	< 800	800	320	69.48
11995	Carbon Disulfide	75-15-0	< 400	400	80	69.48
11995	Carbon Tetrachloride	56-23-5	< 400	400	80	69.48
11995	Chlorobenzene	108-90-7	< 400	400	80	69.48
11995	Chloroethane	75-00-3	< 400	400	160	69.48
11995	Chloroform	67-66-3	< 400	400	80	69.48
11995	Chloromethane	74-87-3	< 400	400	160	69.48
11995	Cyclohexane	110-82-7	< 400	400	80	69.48
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 400	400	160	69.48
11995	Dibromochloromethane	124-48-1	< 400	400	80	69.48
11995	1,2-Dibromoethane	106-93-4	< 400	400	80	69.48
11995	1,2-Dichlorobenzene	95-50-1	< 400	400	80	69.48
11995	1,3-Dichlorobenzene	541-73-1	< 400	400	80	69.48
11995	1,4-Dichlorobenzene	106-46-7	< 400	400	80	69.48
11995	Dichlorodifluoromethane	75-71-8	< 400	400	160	69.48
11995	1,1-Dichloroethane	75-34-3	< 400	400	80	69.48
11995	1,2-Dichloroethane	107-06-2	< 400	400	80	69.48
11995	1,1-Dichloroethene	75-35-4	< 400	400	80	69.48
11995	cis-1,2-Dichloroethene	156-59-2	< 400	400	80	69.48
11995	trans-1,2-Dichloroethene	156-60-5	< 400	400	80	69.48
11995	1,2-Dichloropropane	78-87-5	< 400	400	80	69.48
11995	cis-1,3-Dichloropropene	10061-01-5	< 400	400	80	69.48
11995	trans-1,3-Dichloropropene	10061-02-6	< 400	400	80	69.48
11995	Ethylbenzene	100-41-4	< 400	400	80	69.48
11995	Freon 113	76-13-1	< 800	800	160	69.48
11995	2-Hexanone	591-78-6	< 800	800	240	69.48
11995	Isopropylbenzene	98-82-8	< 400	400	80	69.48
11995	Methyl Acetate	79-20-9	< 400	400	160	69.48
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 400	400	40	69.48
11995	4-Methyl-2-pentanone	108-10-1	< 800	800	240	69.48
11995	Methylcyclohexane	108-87-2	1,400	400	80	69.48
11995	Methylene Chloride	75-09-2	< 400	400	160	69.48
11995	Styrene	100-42-5	< 400	400	80	69.48
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 400	400	80	69.48
11995	Tetrachloroethene	127-18-4	2,200	400	80	69.48
11995	Toluene	108-88-3	3,300	400	80	69.48
11995	1,2,4-Trichlorobenzene	120-82-1	< 400	400	80	69.48
11995	1,1,1-Trichloroethane	71-55-6	< 400	400	80	69.48
11995	1,1,2-Trichloroethane	79-00-5	< 400	400	80	69.48
11995	Trichloroethene	79-01-6	< 400	400	80	69.48
11995	Trichlorofluoromethane	75-69-4	< 400	400	160	69.48
11995	Vinyl Chloride	75-01-4	< 400	400	80	69.48
11995	Xylene (Total)	1330-20-7	3,000	400	80	69.48

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: SBO-01-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262926
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
	Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.					
GC/MS Semivolatiles		**SW-846 8270D**	**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	130	98	19	1
10726	Acenaphthylene	208-96-8	< 98	98	19	1
10726	Acetophenone	98-86-2	< 190	190	96	1
10726	Anthracene	120-12-7	210	98	19	1
10726	Atrazine	1912-24-9	< 960	960	190	1
10726	Benzaldehyde	100-52-7	< 960	960	380	1
10726	Benzo(a)anthracene	56-55-3	1,000	98	19	1
10726	Benzo(a)pyrene	50-32-8	2,000	98	19	1
10726	Benzo(b)fluoranthene	205-99-2	2,500	98	19	1
10726	Benzo(g,h,i)perylene	191-24-2	2,600	98	19	1
10726	Benzo(k)fluoranthene	207-08-9	1,100	98	19	1
10726	1,1'-Biphenyl	92-52-4	< 190	190	96	1
10726	4-Bromophenyl-phenylether	101-55-3	< 190	190	96	1
10726	Butylbenzylphthalate	85-68-7	7,900	960	380	1
10726	Di-n-butylphthalate	84-74-2	< 960	960	380	1
10726	Caprolactam	105-60-2	< 960	960	190	1
10726	Carbazole	86-74-8	< 190	190	96	1
10726	4-Chloro-3-methylphenol	59-50-7	< 190	190	96	1
10726	4-Chloroaniline	106-47-8	430	380	190	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 190	190	96	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 190	190	96	1
10726	2-Chloronaphthalene	91-58-7	< 190	190	38	1
10726	2-Chlorophenol	95-57-8	< 190	190	96	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 190	190	96	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 190	190	96	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,400	98	19	1
10726	Dibenz(a,h)anthracene	53-70-3	580	98	19	1
10726	Dibenzofuran	132-64-9	< 190	190	96	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,900	1,900	570	1
10726	2,4-Dichlorophenol	120-83-2	< 190	190	96	1
10726	Diethylphthalate	84-66-2	< 960	960	380	1
10726	2,4-Dimethylphenol	105-67-9	< 190	190	96	1
10726	Dimethylphthalate	131-11-3	< 960	960	380	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,900	2,900	960	1
10726	2,4-Dinitrophenol	51-28-5	< 5,700	5,700	1,700	1
10726	2,4-Dinitrotoluene	121-14-2	< 960	960	380	1
10726	2,6-Dinitrotoluene	606-20-2	< 190	190	96	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,200	980	380	1
10726	Fluoranthene	206-44-0	1,300	98	19	1
10726	Fluorene	86-73-7	< 98	98	19	1
10726	Hexachlorobenzene	118-74-1	< 98	98	19	1
10726	Hexachlorobutadiene	87-68-3	< 190	190	96	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-01-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262926
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachlorocyclopentadiene	77-47-4	< 2,900	2,900	960	1
10726	Hexachloroethane	67-72-1	< 960	960	190	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	2,100	98	19	1
10726	Isophorone	78-59-1	< 190	190	96	1
10726	2-Methylnaphthalene	91-57-6	830	98	19	1
10726	2-Methylphenol	95-48-7	< 190	190	96	1
10726	4-Methylphenol	106-44-5	< 190	190	96	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	610	98	19	1
10726	2-Nitroaniline	88-74-4	< 190	190	96	1
10726	3-Nitroaniline	99-09-2	< 960	960	380	1
10726	4-Nitroaniline	100-01-6	< 960	960	380	1
10726	Nitrobenzene	98-95-3	< 190	190	96	1
10726	2-Nitrophenol	88-75-5	< 190	190	96	1
10726	4-Nitrophenol	100-02-7	< 2,900	2,900	960	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 190	190	96	1
10726	N-Nitrosodiphenylamine	86-30-6	< 190	190	96	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 960	960	380	1
10726	Pentachlorophenol	87-86-5	< 980	980	190	1
10726	Phenanthrene	85-01-8	940	98	19	1
10726	Phenol	108-95-2	< 190	190	96	1
10726	Pyrene	129-00-0	1,600	98	19	1
10726	2,4,5-Trichlorophenol	95-95-4	< 190	190	96	1
10726	2,4,6-Trichlorophenol	88-06-2	< 190	190	96	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	46	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	46	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	46	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	46	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	46	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	46	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	910	1
13413	2-Nitrotoluene	88-72-2	< 140	140	46	1
13413	3-Nitrotoluene	99-08-1	< 140	140	46	1
13413	4-Nitrotoluene	99-99-0	< 140	140	46	1
13413	PETN	78-11-5	< 2,700	2,700	910	1
13413	RDX	121-82-4	< 140	140	46	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	46	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262926
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	46	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	410	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	520	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	910	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	380	100
10885	PCB-1248	12672-29-6	20,000	1,900	380	100
10885	PCB-1254	11097-69-1	5,500	1,900	380	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	560	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	9,120	224	42.9	5
06946	Barium	7440-39-3	213	1.12	0.135	1
01650	Calcium	7440-70-2	12,700	44.8	3.73	1
06952	Cobalt	7440-48-4	13.4	5.61	0.454	5
06953	Copper	7440-50-8	572	11.2	1.79	5
01654	Iron	7439-89-6	146,000	224	18.7	5
06955	Lead	7439-92-1	648	16.8	2.30	5
01657	Magnesium	7439-95-4	2,390	22.4	1.87	1
06958	Manganese	7439-96-5	977	1.12	0.135	1
06961	Nickel	7440-02-0	137	2.24	0.258	1
01662	Potassium	7440-09-7	1,010	112	18.8	1
01667	Sodium	7440-23-5	< 224	224	18.7	1
06970	Titanium	7440-32-6	355	11.2	2.07	5
06971	Vanadium	7440-62-2	25.2	5.61	1.29	5
06972	Zinc	7440-66-6	2,160	22.4	4.32	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	5.41	0.448	0.0740	2
06125	Arsenic	7440-38-2	17.5	0.897	0.168	2
06127	Beryllium	7440-41-7	0.562	0.224	0.0159	2
06128	Cadmium	7440-43-9	12.2	0.224	0.0516	2
06131	Chromium	7440-47-3	176	0.897	0.112	2
06141	Selenium	7782-49-2	< 0.897	0.897	0.112	2
06142	Silver	7440-22-4	0.449	0.224	0.0224	2
06145	Thallium	7440-28-0	< 0.224	0.224	0.0336	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.480	0.228	0.0114	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	13.4	0.50	0.50	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262926
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016	16:41	Anita M Dale	69.48
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	11:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	11:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	11:40	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/11/2016	01:28	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	11:51	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/11/2016	05:52	Kirby B Turner	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	10:50	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	10:04	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:10	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:10	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	10:04	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	16:48	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	10:04	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	10:04	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:10	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:10	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:10	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:10	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:10	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	10:04	Katlin N Cataldi	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262926
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 11:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016 10:04	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016 10:04	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016 06:47	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016 06:47	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016 06:47	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016 13:48	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 13:48	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:47	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016 13:48	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:47	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:02	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262927
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:01 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 18	18	6	0.79
11995	Benzene	71-43-2	< 5	5	0.5	0.79
11995	Bromodichloromethane	75-27-4	< 5	5	0.9	0.79
11995	Bromoform	75-25-2	< 5	5	0.9	0.79
11995	Bromomethane	74-83-9	< 5	5	2	0.79
11995	2-Butanone	78-93-3	< 9	9	4	0.79
11995	Carbon Disulfide	75-15-0	< 5	5	0.9	0.79
11995	Carbon Tetrachloride	56-23-5	< 5	5	0.9	0.79
11995	Chlorobenzene	108-90-7	< 5	5	0.9	0.79
11995	Chloroethane	75-00-3	< 5	5	2	0.79
11995	Chloroform	67-66-3	< 5	5	0.9	0.79
11995	Chloromethane	74-87-3	< 5	5	2	0.79
11995	Cyclohexane	110-82-7	< 5	5	0.9	0.79
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.79
11995	Dibromochloromethane	124-48-1	< 5	5	0.9	0.79
11995	1,2-Dibromoethane	106-93-4	< 5	5	0.9	0.79
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	0.9	0.79
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	0.9	0.79
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	0.9	0.79
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.79
11995	1,1-Dichloroethane	75-34-3	< 5	5	0.9	0.79
11995	1,2-Dichloroethane	107-06-2	< 5	5	0.9	0.79
11995	1,1-Dichloroethene	75-35-4	< 5	5	0.9	0.79
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	0.9	0.79
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	0.9	0.79
11995	1,2-Dichloropropane	78-87-5	< 5	5	0.9	0.79
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	0.9	0.79
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	0.9	0.79
11995	Ethylbenzene	100-41-4	< 5	5	0.9	0.79
11995	Freon 113	76-13-1	< 9	9	2	0.79
11995	2-Hexanone	591-78-6	< 9	9	3	0.79
11995	Isopropylbenzene	98-82-8	< 5	5	0.9	0.79
11995	Methyl Acetate	79-20-9	< 5	5	2	0.79
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.79
11995	4-Methyl-2-pentanone	108-10-1	< 9	9	3	0.79
11995	Methylcyclohexane	108-87-2	< 5	5	0.9	0.79
11995	Methylene Chloride	75-09-2	< 5	5	2	0.79
11995	Styrene	100-42-5	< 5	5	0.9	0.79
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	0.9	0.79
11995	Tetrachloroethene	127-18-4	< 5	5	0.9	0.79
11995	Toluene	108-88-3	< 5	5	0.9	0.79
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	0.9	0.79
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	0.9	0.79
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	0.9	0.79
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.79
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.79
11995	Vinyl Chloride	75-01-4	< 5	5	0.9	0.79
11995	Xylene (Total)	1330-20-7	< 5	5	0.9	0.79

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-01-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262927
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:01 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 20	20	4	1
10726	Acenaphthylene	208-96-8	< 20	20	4	1
10726	Acetophenone	98-86-2	< 38	38	19	1
10726	Anthracene	120-12-7	< 20	20	4	1
10726	Atrazine	1912-24-9	< 190	190	38	1
10726	Benzaldehyde	100-52-7	< 190	190	77	1
10726	Benzo(a)anthracene	56-55-3	< 20	20	4	1
10726	Benzo(a)pyrene	50-32-8	< 20	20	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 20	20	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 20	20	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 20	20	4	1
10726	1,1'-Biphenyl	92-52-4	< 38	38	19	1
10726	4-Bromophenyl-phenylether	101-55-3	< 38	38	19	1
10726	Butylbenzylphthalate	85-68-7	< 190	190	77	1
10726	Di-n-butylphthalate	84-74-2	< 190	190	77	1
10726	Caprolactam	105-60-2	< 190	190	38	1
10726	Carbazole	86-74-8	< 38	38	19	1
10726	4-Chloro-3-methylphenol	59-50-7	< 38	38	19	1
10726	4-Chloroaniline	106-47-8	< 77	77	38	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 38	38	19	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 38	38	19	1
10726	2-Chloronaphthalene	91-58-7	< 38	38	8	1
10726	2-Chlorophenol	95-57-8	< 38	38	19	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 38	38	19	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 38	38	19	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 20	20	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 20	20	4	1
10726	Dibenzofuran	132-64-9	< 38	38	19	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 380	380	110	1
10726	2,4-Dichlorophenol	120-83-2	< 38	38	19	1
10726	Diethylphthalate	84-66-2	< 190	190	77	1
10726	2,4-Dimethylphenol	105-67-9	< 38	38	19	1
10726	Dimethylphthalate	131-11-3	< 190	190	77	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 570	570	190	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	340	1
10726	2,4-Dinitrotoluene	121-14-2	< 190	190	77	1
10726	2,6-Dinitrotoluene	606-20-2	< 38	38	19	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 200	200	77	1
10726	Fluoranthene	206-44-0	< 20	20	4	1
10726	Fluorene	86-73-7	< 20	20	4	1
10726	Hexachlorobenzene	118-74-1	< 20	20	4	1
10726	Hexachlorobutadiene	87-68-3	< 38	38	19	1
10726	Hexachlorocyclopentadiene	77-47-4	< 570	570	190	1
10726	Hexachloroethane	67-72-1	< 190	190	38	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 20	20	4	1
10726	Isophorone	78-59-1	< 38	38	19	1
10726	2-Methylnaphthalene	91-57-6	< 20	20	4	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262927
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:01 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 38	38	19	1
10726	4-Methylphenol	106-44-5	< 38	38	19	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 20	20	4	1
10726	2-Nitroaniline	88-74-4	< 38	38	19	1
10726	3-Nitroaniline	99-09-2	< 190	190	77	1
10726	4-Nitroaniline	100-01-6	< 190	190	77	1
10726	Nitrobenzene	98-95-3	< 38	38	19	1
10726	2-Nitrophenol	88-75-5	< 38	38	19	1
10726	4-Nitrophenol	100-02-7	< 570	570	190	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 38	38	19	1
10726	N-Nitrosodiphenylamine	86-30-6	< 38	38	19	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 190	190	77	1
10726	Pentachlorophenol	87-86-5	< 200	200	38	1
10726	Phenanthrene	85-01-8	< 20	20	4	1
10726	Phenol	108-95-2	< 38	38	19	1
10726	Pyrene	129-00-0	< 20	20	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 38	38	19	1
10726	2,4,6-Trichlorophenol	88-06-2	< 38	38	19	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	910	1
13413	2-Nitrotoluene	88-72-2	< 140	140	45	1
13413	3-Nitrotoluene	99-08-1	< 140	140	45	1
13413	4-Nitrotoluene	99-99-0	< 140	140	45	1
13413	PETN	78-11-5	< 2,700	2,700	910	1
13413	RDX	121-82-4	< 140	140	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	45	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.1	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262927
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:01 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1221	11104-28-2	< 20	20	5.3	1
10885	PCB-1232	11141-16-5	< 20	20	9.2	1
10885	PCB-1242	53469-21-9	< 20	20	3.8	1
10885	PCB-1248	12672-29-6	120	20	3.8	1
10885	PCB-1254	11097-69-1	24	20	3.8	1
10885	PCB-1260	11096-82-5	< 20	20	5.6	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	24,300	36.8	7.04	1
06946	Barium	7440-39-3	94.4	0.919	0.110	1
01650	Calcium	7440-70-2	535	36.8	3.06	1
06952	Cobalt	7440-48-4	6.09	0.919	0.0744	1
06953	Copper	7440-50-8	10.1	1.84	0.294	1
01654	Iron	7439-89-6	26,200	73.5	6.12	2
06955	Lead	7439-92-1	9.06	2.76	0.377	1
01657	Magnesium	7439-95-4	2,620	18.4	1.53	1
06958	Manganese	7439-96-5	200	0.919	0.110	1
06961	Nickel	7440-02-0	9.42	1.84	0.211	1
01662	Potassium	7440-09-7	2,080	91.9	15.4	1
01667	Sodium	7440-23-5	< 184	184	15.3	1
06970	Titanium	7440-32-6	1,110	1.84	0.340	1
06971	Vanadium	7440-62-2	48.0	0.919	0.211	1
06972	Zinc	7440-66-6	44.3	3.68	0.707	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.368	0.368	0.0606	2
06125	Arsenic	7440-38-2	2.28	0.735	0.138	2
06127	Beryllium	7440-41-7	0.858	0.184	0.0130	2
06128	Cadmium	7440-43-9	< 0.184	0.184	0.0423	2
06131	Chromium	7440-47-3	25.7	0.735	0.0919	2
06141	Selenium	7782-49-2	< 0.735	0.735	0.0919	2
06142	Silver	7440-22-4	< 0.184	0.184	0.0184	2
06145	Thallium	7440-28-0	0.310	0.184	0.0276	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.219	0.219	0.0110	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262927
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:01 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS16

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160702AA	03/10/2016	12:46	Angela D Sneeringer	0.79
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040254	02/26/2016	12:01	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040254	02/26/2016	12:01	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040254	02/26/2016	12:01	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/11/2016	01:52	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	13:41	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	05:00	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	11:08	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	15:51	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/09/2016	03:02	Matthew Machtinger	2
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/09/2016	02:58	Matthew Machtinger	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	09:13	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:50	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:50	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:50	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016	06:50	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:49	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-01-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262927
LL Group # 1635589
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:01 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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Atlanta GA 30309

CPS16

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:50	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016 06:50	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:50	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:04	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: A160681AA	Sample number(s): 8262909		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: A160691AA	Sample number(s): 8262907,8262910-8262916,8262918-8262924		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Batch number: A160692AA	Sample number(s): 8262925		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: A160702AA	Sample number(s): 8262927		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: R160621AA	Sample number(s): 8262926		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
Batch number: R160633AA	Sample number(s): 8262908		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
Batch number: 16064SLI026	Sample number(s): 8262907-8262913		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 16068SLD026	Sample number(s): 8262914-8262916,8262918-8262923,8262925-8262927		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 160620007A	Sample number(s): 8262907-8262916,8262918-8262921		
4-Amino-2,6-Dinitrotoluene	< 120	120	40
2-Amino-4,6-Dinitrotoluene	< 120	120	40
2,6-Diamino-4-nitrotoluene	< 300	300	100
2,4-Diamino-6-nitrotoluene	< 300	300	100
3,5-Dinitroaniline	< 120	120	40
1,3-Dinitrobenzene	< 120	120	40
2,4-Dinitrotoluene	< 120	120	40
2,6-Dinitrotoluene	< 120	120	40
HMX	< 300	300	100
Nitrobenzene	< 300	300	100
Nitroglycerin	< 2,400	2,400	800
2-Nitrotoluene	< 120	120	40
3-Nitrotoluene	< 120	120	40
4-Nitrotoluene	< 120	120	40
PETN	< 2,400	2,400	800
RDX	< 120	120	40
Tetryl	< 300	300	100
1,3,5-Trinitrobenzene	< 120	120	40
2,4,6-Trinitrotoluene	< 120	120	40
Batch number: 160620008A	Sample number(s): 8262922-8262923,8262925-8262927		
4-Amino-2,6-Dinitrotoluene	< 120	120	40
2-Amino-4,6-Dinitrotoluene	< 120	120	40
2,6-Diamino-4-nitrotoluene	< 300	300	100
2,4-Diamino-6-nitrotoluene	< 300	300	100
3,5-Dinitroaniline	< 120	120	40
1,3-Dinitrobenzene	< 120	120	40
2,4-Dinitrotoluene	< 120	120	40
2,6-Dinitrotoluene	< 120	120	40
HMX	< 300	300	100
Nitrobenzene	< 300	300	100
Nitroglycerin	< 2,400	2,400	800
2-Nitrotoluene	< 120	120	40
3-Nitrotoluene	< 120	120	40
4-Nitrotoluene	< 120	120	40
PETN	< 2,400	2,400	800
RDX	< 120	120	40
Tetryl	< 300	300	100
1,3,5-Trinitrobenzene	< 120	120	40
2,4,6-Trinitrotoluene	< 120	120	40
Batch number: 160640033A	Sample number(s): 8262907-8262916,8262918-8262922		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
PCB-1260	< 17	17	4.9
Batch number: 160660011A	Sample number(s): 8262923,8262925-8262927		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	mg/kg	mg/kg	mg/kg
Batch number: 160670008A	Sample number(s): 8262907-8262916		
Ethylene glycol	< 10	10	5.0
Batch number: 160670009A	Sample number(s): 8262918-8262923,8262925-8262927		
Ethylene glycol	< 10	10	5.0
Batch number: 160620637001	Sample number(s): 8262907-8262923		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160620637001A	Sample number(s): 8262907-8262923		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160620637001B	Sample number(s): 8262907-8262923		
Selenium	< 0.800	0.800	0.100
Batch number: 160620638001	Sample number(s): 8262907-8262923		
Mercury	< 0.200	0.200	0.0100
Batch number: 160630637002	Sample number(s): 8262925-8262927		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Result mg/kg	LOQ** mg/kg	MDL mg/kg
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160630637002A	Sample number(s): 8262925-8262927		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160630637002B	Sample number(s): 8262925-8262927		
Selenium	< 0.800	0.800	0.100
Batch number: 160630638002	Sample number(s): 8262925-8262927		
Mercury	< 0.200	0.200	0.0100

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A160681AA	Sample number(s): 8262909								
Acetone	150	134.9	150	133.63	90	89	46-139	1	30
Benzene	20	18.75	20	18.53	94	93	80-120	1	30
Bromodichloromethane	20	17.94	20	17.65	90	88	75-120	2	30
Bromoform	20	16.27	20	15.39	81	77	64-120	6	30
Bromomethane	20	15.67	20	15.31	78	77	16-200	2	30
2-Butanone	150	137.88	150	133.67	92	89	54-129	3	30
Carbon Disulfide	20	18.06	20	17.64	90	88	60-120	2	30
Carbon Tetrachloride	20	19.44	20	19.27	97	96	69-130	1	30
Chlorobenzene	20	18.2	20	18.07	91	90	80-120	1	30
Chloroethane	20	14.85	20	14.87	74	74	11-200	0	30
Chloroform	20	18.98	20	18.87	95	94	80-120	1	30
Chloromethane	20	13.96	20	13.93	70	70	56-120	0	30
Cyclohexane	20	18.56	20	18.41	93	92	58-120	1	30
1,2-Dibromo-3-chloropropane	20	15.39	20	14.33	77	72	54-120	7	30
Dibromochloromethane	20	17.28	20	16.87	86	84	77-120	2	30
1,2-Dibromoethane	20	17.94	20	17.17	90	86	80-120	4	30
1,2-Dichlorobenzene	20	18.15	20	18.13	91	91	80-120	0	30
1,3-Dichlorobenzene	20	17.88	20	18.14	89	91	80-120	1	30
1,4-Dichlorobenzene	20	17.98	20	18.08	90	90	80-120	1	30
Dichlorodifluoromethane	20	13.46	20	12.99	67	65	28-131	4	30
1,1-Dichloroethane	20	18.51	20	18.44	93	92	77-120	0	30
1,2-Dichloroethane	20	18.55	20	18.33	93	92	77-130	1	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1-Dichloroethene	20	18.79	20	18.68	94	93	73-129	1	30
cis-1,2-Dichloroethene	20	19.43	20	19.18	97	96	80-120	1	30
trans-1,2-Dichloroethene	20	19.81	20	19.53	99	98	80-125	1	30
1,2-Dichloropropane	20	18.65	20	18.69	93	93	76-120	0	30
cis-1,3-Dichloropropene	20	17.34	20	17.63	87	88	74-120	2	30
trans-1,3-Dichloropropene	20	17.44	20	17.36	87	87	76-120	0	30
Ethylbenzene	20	18.98	20	18.87	95	94	80-120	1	30
Freon 113	20	19.72	20	19.18	99	96	57-141	3	30
2-Hexanone	100	75.92	100	70.73	76	71	39-120	7	30
Isopropylbenzene	20	19.48	20	19.58	97	98	70-120	1	30
Methyl Acetate	20	18.32	20	16.64	92	83	52-146	10	30
Methyl Tertiary Butyl Ether	20	18.33	20	18.06	92	90	72-120	1	30
4-Methyl-2-pentanone	100	79.15	100	73.39	79	73	50-120	8	30
Methylcyclohexane	20	19.33	20	18.97	97	95	52-128	2	30
Methylene Chloride	20	18.14	20	18.31	91	92	76-122	1	30
Styrene	20	19.13	20	18.91	96	95	76-120	1	30
1,1,2,2-Tetrachloroethane	20	16.61	20	16.27	83	81	67-121	2	30
Tetrachloroethene	20	19	20	19.12	95	96	78-120	1	30
Toluene	20	18.62	20	18.36	93	92	80-120	1	30
1,2,4-Trichlorobenzene	20	17.44	20	17.28	87	86	55-120	1	30
1,1,1-Trichloroethane	20	18.6	20	18.42	93	92	66-128	1	30
1,1,2-Trichloroethane	20	17.08	20	17.27	85	86	80-120	1	30
Trichloroethene	20	18.62	20	18.78	93	94	80-120	1	30
Trichlorofluoromethane	20	16.86	20	16.43	84	82	54-140	3	30
Vinyl Chloride	20	14.69	20	14.75	73	74	59-120	0	30
Xylene (Total)	60	57.15	60	56.57	95	94	80-120	1	30
Batch number: A160691AA	Sample number(s): 8262907,8262910-8262916,8262918-8262924								
Acetone	150	136.81	150	130.21	91	87	46-139	5	30
Benzene	20	18.59	20	18.32	93	92	80-120	1	30
Bromodichloromethane	20	16.89	20	16.47	84	82	75-120	2	30
Bromoform	20	16.19	20	15.38	81	77	64-120	5	30
Bromomethane	20	13.63	20	13.13	68	66	16-200	4	30
2-Butanone	150	135.1	150	135.86	90	91	54-129	1	30
Carbon Disulfide	20	17.64	20	17.26	88	86	60-120	2	30
Carbon Tetrachloride	20	17.37	20	17	87	85	69-130	2	30
Chlorobenzene	20	17.72	20	17.36	89	87	80-120	2	30
Chloroethane	20	13.91	20	13.5	70	68	11-200	3	30
Chloroform	20	17.76	20	17.63	89	88	80-120	1	30
Chloromethane	20	12.56	20	12.37	63	62	56-120	2	30
Cyclohexane	20	19.06	20	18.73	95	94	58-120	2	30
1,2-Dibromo-3-chloropropane	20	16.31	20	15.91	82	80	54-120	2	30
Dibromochloromethane	20	16.3	20	16.3	81	82	77-120	0	30
1,2-Dibromoethane	20	17.55	20	17.36	88	87	80-120	1	30
1,2-Dichlorobenzene	20	18.12	20	18.07	91	90	80-120	0	30
1,3-Dichlorobenzene	20	18	20	17.92	90	90	80-120	0	30
1,4-Dichlorobenzene	20	17.73	20	17.74	89	89	80-120	0	30
Dichlorodifluoromethane	20	9.67	20	9.48	48	47	28-131	2	30
1,1-Dichloroethane	20	18.19	20	17.74	91	89	77-120	3	30
1,2-Dichloroethane	20	16.5	20	16.49	83	82	77-130	0	30
1,1-Dichloroethene	20	18.39	20	18.18	92	91	73-129	1	30
cis-1,2-Dichloroethene	20	19.15	20	18.83	96	94	80-120	2	30
trans-1,2-Dichloroethene	20	19.44	20	18.89	97	94	80-125	3	30
1,2-Dichloropropane	20	18.98	20	18.91	95	95	76-120	0	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
cis-1,3-Dichloropropene	20	17.57	20	17.57	88	88	74-120	0	30
trans-1,3-Dichloropropene	20	17.14	20	17.47	86	87	76-120	2	30
Ethylbenzene	20	18.6	20	18.25	93	91	80-120	2	30
Freon 113	20	18.22	20	17.66	91	88	57-141	3	30
2-Hexanone	100	79.96	100	79.91	80	80	39-120	0	30
Isopropylbenzene	20	19.16	20	18.9	96	95	70-120	1	30
Methyl Acetate	20	17.4	20	17.75	87	89	52-146	2	30
Methyl Tertiary Butyl Ether	20	18.4	20	18.24	92	91	72-120	1	30
4-Methyl-2-pentanone	100	80.95	100	80.09	81	80	50-120	1	30
Methylcyclohexane	20	19.33	20	19.35	97	97	52-128	0	30
Methylene Chloride	20	17.96	20	17.86	90	89	76-122	1	30
Styrene	20	19.03	20	18.63	95	93	76-120	2	30
1,1,2,2-Tetrachloroethane	20	17.92	20	17.93	90	90	67-121	0	30
Tetrachloroethene	20	18.48	20	17.83	92	89	78-120	4	30
Toluene	20	18.56	20	18.22	93	91	80-120	2	30
1,2,4-Trichlorobenzene	20	18.16	20	18.12	91	91	55-120	0	30
1,1,1-Trichloroethane	20	16.85	20	16.33	84	82	66-128	3	30
1,1,2-Trichloroethane	20	17.38	20	17.16	87	86	80-120	1	30
Trichloroethene	20	18.35	20	17.86	92	89	80-120	3	30
Trichlorofluoromethane	20	13.93	20	13.39	70	67	54-140	4	30
Vinyl Chloride	20	13.34	20	13.25	67	66	59-120	1	30
Xylene (Total)	60	55.99	60	55.09	93	92	80-120	2	30
Batch number: A160692AA	Sample number(s): 8262925								
Acetone	150	126.5			84		46-139		
Benzene	20	18.78			94		80-120		
Bromodichloromethane	20	17.03			85		75-120		
Bromoform	20	15.97			80		64-120		
Bromomethane	20	14.54			73		16-200		
2-Butanone	150	130.72			87		54-129		
Carbon Disulfide	20	16.52			83		60-120		
Carbon Tetrachloride	20	17.85			89		69-130		
Chlorobenzene	20	18.14			91		80-120		
Chloroethane	20	13.95			70		11-200		
Chloroform	20	18.2			91		80-120		
Chloromethane	20	13.35			67		56-120		
Cyclohexane	20	17.62			88		58-120		
1,2-Dibromo-3-chloropropane	20	16.12			81		54-120		
Dibromochloromethane	20	16.9			84		77-120		
1,2-Dibromoethane	20	18.07			90		80-120		
1,2-Dichlorobenzene	20	18.27			91		80-120		
1,3-Dichlorobenzene	20	18.41			92		80-120		
1,4-Dichlorobenzene	20	18.17			91		80-120		
Dichlorodifluoromethane	20	11.33			57		28-131		
1,1-Dichloroethane	20	17.89			89		77-120		
1,2-Dichloroethane	20	17.3			87		77-130		
1,1-Dichloroethene	20	17.89			89		73-129		
cis-1,2-Dichloroethene	20	19.37			97		80-120		
trans-1,2-Dichloroethene	20	18.9			95		80-125		
1,2-Dichloropropane	20	18.74			94		76-120		
cis-1,3-Dichloropropene	20	18.28			91		74-120		
trans-1,3-Dichloropropene	20	18.01			90		76-120		
Ethylbenzene	20	18.9			95		80-120		
Freon 113	20	17.17			86		57-141		

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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2-Hexanone	100	81.36			81		39-120		
Isopropylbenzene	20	19.58			98		70-120		
Methyl Acetate	20	17.64			88		52-146		
Methyl Tertiary Butyl Ether	20	18.68			93		72-120		
4-Methyl-2-pentanone	100	83.17			83		50-120		
Methylcyclohexane	20	17.31			87		52-128		
Methylene Chloride	20	17.84			89		76-122		
Styrene	20	19.14			96		76-120		
1,1,2,2-Tetrachloroethane	20	17.78			89		67-121		
Tetrachloroethene	20	21.28			106		78-120		
Toluene	20	18.94			95		80-120		
1,2,4-Trichlorobenzene	20	18.37			92		55-120		
1,1,1-Trichloroethane	20	16.9			84		66-128		
1,1,2-Trichloroethane	20	17.2			86		80-120		
Trichloroethene	20	18.61			93		80-120		
Trichlorofluoromethane	20	14.62			73		54-140		
Vinyl Chloride	20	14.06			70		59-120		
Xylene (Total)	60	56.89			95		80-120		
Batch number: A160702AA	Sample number(s): 8262927								
Acetone	150	125.85	150	125.59	84	84	46-139	0	30
Benzene	20	18.76	20	18.37	94	92	80-120	2	30
Bromodichloromethane	20	17.64	20	17.35	88	87	75-120	2	30
Bromoform	20	16.44	20	15.86	82	79	64-120	4	30
Bromomethane	20	16.76	20	16.11	84	81	16-200	4	30
2-Butanone	150	124.21	150	127.33	83	85	54-129	2	30
Carbon Disulfide	20	17.68	20	17.09	88	85	60-120	3	30
Carbon Tetrachloride	20	19.26	20	18.44	96	92	69-130	4	30
Chlorobenzene	20	18.15	20	17.58	91	88	80-120	3	30
Chloroethane	20	15.93	20	15.35	80	77	11-200	4	30
Chloroform	20	18.87	20	18.6	94	93	80-120	1	30
Chloromethane	20	15.52	20	15.85	78	79	56-120	2	30
Cyclohexane	20	18.03	20	18.01	90	90	58-120	0	30
1,2-Dibromo-3-chloropropane	20	16.84	20	16.17	84	81	54-120	4	30
Dibromochloromethane	20	17.42	20	16.64	87	83	77-120	5	30
1,2-Dibromoethane	20	18.4	20	17.78	92	89	80-120	3	30
1,2-Dichlorobenzene	20	18.05	20	17.59	90	88	80-120	3	30
1,3-Dichlorobenzene	20	17.87	20	17.52	89	88	80-120	2	30
1,4-Dichlorobenzene	20	17.85	20	17.46	89	87	80-120	2	30
Dichlorodifluoromethane	20	15.91	20	15.23	80	76	28-131	4	30
1,1-Dichloroethane	20	18.3	20	17.87	92	89	77-120	2	30
1,2-Dichloroethane	20	18.6	20	18.21	93	91	77-130	2	30
1,1-Dichloroethene	20	19.11	20	18.46	96	92	73-129	3	30
cis-1,2-Dichloroethene	20	19.57	20	19.24	98	96	80-120	2	30
trans-1,2-Dichloroethene	20	20.17	20	19.25	101	96	80-125	5	30
1,2-Dichloropropane	20	18.56	20	18.5	93	93	76-120	0	30
cis-1,3-Dichloropropene	20	17.2	20	17.34	86	87	74-120	1	30
trans-1,3-Dichloropropene	20	17.67	20	17.65	88	88	76-120	0	30
Ethylbenzene	20	18.96	20	18.44	95	92	80-120	3	30
Freon 113	20	19.28	20	18.55	96	93	57-141	4	30
2-Hexanone	100	82.53	100	80.48	83	80	39-120	3	30
Isopropylbenzene	20	19.54	20	18.9	98	94	70-120	3	30
Methyl Acetate	20	20.26	20	18.99	101	95	52-146	6	30
Methyl Tertiary Butyl Ether	20	19.26	20	18.94	96	95	72-120	2	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
4-Methyl-2-pentanone	100	83.79	100	83.48	84	83	50-120	0	30
Methylcyclohexane	20	19.58	20	18.83	98	94	52-128	4	30
Methylene Chloride	20	18.3	20	18.29	91	91	76-122	0	30
Styrene	20	19.09	20	18.56	95	93	76-120	3	30
1,1,2,2-Tetrachloroethane	20	17.23	20	16.88	86	84	67-121	2	30
Tetrachloroethene	20	19.22	20	18.18	96	91	78-120	6	30
Toluene	20	18.53	20	18.16	93	91	80-120	2	30
1,2,4-Trichlorobenzene	20	17.44	20	17.14	87	86	55-120	2	30
1,1,1-Trichloroethane	20	18.33	20	17.74	92	89	66-128	3	30
1,1,2-Trichloroethane	20	17.56	20	17.01	88	85	80-120	3	30
Trichloroethene	20	19.19	20	18.54	96	93	80-120	3	30
Trichlorofluoromethane	20	17.81	20	16.63	89	83	54-140	7	30
Vinyl Chloride	20	16.18	20	15.85	81	79	59-120	2	30
Xylene (Total)	60	56.39	60	54.81	94	91	80-120	3	30
Batch number: R160621AA	Sample number(s): 8262926								
Acetone	7500	5884.62	7500	6400.79	78	85	46-139	8	30
Benzene	1000	958.42	1000	1013.67	96	101	80-120	6	30
Bromodichloromethane	1000	933.44	1000	981.78	93	98	75-120	5	30
Bromoform	1000	966.71	1000	1015.78	97	102	64-120	5	30
Bromomethane	1000	863.59	1000	938.51	86	94	16-200	8	30
2-Butanone	7500	6714.92	7500	7367.85	90	98	54-129	9	30
Carbon Disulfide	1000	1013.78	1000	1113.78	101	111	60-120	9	30
Carbon Tetrachloride	1000	948.08	1000	987.89	95	99	69-130	4	30
Chlorobenzene	1000	930.58	1000	968.72	93	97	80-120	4	30
Chloroethane	1000	832.18	1000	885.73	83	89	11-200	6	30
Chloroform	1000	959.17	1000	1006.85	96	101	80-120	5	30
Chloromethane	1000	783.29	1000	830.32	78	83	56-120	6	30
Cyclohexane	1000	854.4	1000	865.28	85	87	58-120	1	30
1,2-Dibromo-3-chloropropane	1000	836.86	1000	868.87	84	87	54-120	4	30
Dibromochloromethane	1000	974.91	1000	1033.12	97	103	77-120	6	30
1,2-Dibromoethane	1000	992.22	1000	1058	99	106	80-120	6	30
1,2-Dichlorobenzene	1000	989.92	1000	1016.3	99	102	80-120	3	30
1,3-Dichlorobenzene	1000	999.05	1000	1033.4	100	103	80-120	3	30
1,4-Dichlorobenzene	1000	973.61	1000	1017.84	97	102	80-120	4	30
Dichlorodifluoromethane	1000	550.04	1000	566.19	55	57	28-131	3	30
1,1-Dichloroethane	1000	959.1	1000	997.44	96	100	77-120	4	30
1,2-Dichloroethane	1000	965.02	1000	1014.21	97	101	77-130	5	30
1,1-Dichloroethene	1000	1000.04	1000	1049.91	100	105	73-129	5	30
cis-1,2-Dichloroethene	1000	989.31	1000	1049.66	99	105	80-120	6	30
trans-1,2-Dichloroethene	1000	1031.43	1000	1057.97	103	106	80-125	3	30
1,2-Dichloropropane	1000	970.39	1000	1037.85	97	104	76-120	7	30
cis-1,3-Dichloropropene	1000	979.87	1000	1031.08	98	103	74-120	5	30
trans-1,3-Dichloropropene	1000	1012.19	1000	1077.68	101	108	76-120	6	30
Ethylbenzene	1000	922.73	1000	972.84	92	97	80-120	5	30
Freon 113	1000	847.94	1000	864.08	85	86	57-141	2	30
2-Hexanone	5000	4966.54	5000	5118.84	99	102	39-120	3	30
Isopropylbenzene	1000	941.68	1000	987.55	94	99	70-120	5	30
Methyl Acetate	1000	943.42	1000	970.11	94	97	52-146	3	30
Methyl Tertiary Butyl Ether	1000	963.89	1000	1009.83	96	101	72-120	5	30
4-Methyl-2-pentanone	5000	4906.08	5000	5166.51	98	103	50-120	5	30
Methylcyclohexane	1000	820.65	1000	832.48	82	83	52-128	1	30
Methylene Chloride	1000	1022.59	1000	1084.7	102	108	76-122	6	30
Styrene	1000	900.61	1000	957.4	90	96	76-120	6	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1,2,2-Tetrachloroethane	1000	930.46	1000	989.43	93	99	67-121	6	30
Tetrachloroethene	1000	990.49	1000	1029.78	99	103	78-120	4	30
Toluene	1000	975.33	1000	1045.31	98	105	80-120	7	30
1,2,4-Trichlorobenzene	1000	1106.06	1000	1048.3	111	105	55-120	5	30
1,1,1-Trichloroethane	1000	923.87	1000	963.51	92	96	66-128	4	30
1,1,2-Trichloroethane	1000	964.15	1000	1016.28	96	102	80-120	5	30
Trichloroethene	1000	973.84	1000	1024.39	97	102	80-120	5	30
Trichlorofluoromethane	1000	880.49	1000	888.73	88	89	54-140	1	30
Vinyl Chloride	1000	807.41	1000	850.93	81	85	59-120	5	30
Xylene (Total)	3000	2839.23	3000	2970.45	95	99	80-120	5	30
Batch number: R160633AA	Sample number(s): 8262908								
Acetone	7500	5947.81	7500	5883.26	79	78	46-139	1	30
Benzene	1000	1016.25	1000	994.06	102	99	80-120	2	30
Bromodichloromethane	1000	981.81	1000	961.94	98	96	75-120	2	30
Bromoform	1000	1013.01	1000	951.39	101	95	64-120	6	30
Bromomethane	1000	802.2	1000	785.36	80	79	16-200	2	30
2-Butanone	7500	6680.7	7500	6639.34	89	89	54-129	1	30
Carbon Disulfide	1000	1117.19	1000	1063.06	112	106	60-120	5	30
Carbon Tetrachloride	1000	1012.75	1000	978.97	101	98	69-130	3	30
Chlorobenzene	1000	957.16	1000	937.37	96	94	80-120	2	30
Chloroethane	1000	827.45	1000	802.55	83	80	11-200	3	30
Chloroform	1000	1020.69	1000	983.41	102	98	80-120	4	30
Chloromethane	1000	851.87	1000	812.01	85	81	56-120	5	30
Cyclohexane	1000	969.45	1000	969.95	97	97	58-120	0	30
1,2-Dibromo-3-chloropropane	1000	734.6	1000	710.89	73	71	54-120	3	30
Dibromochloromethane	1000	1013.51	1000	958.97	101	96	77-120	6	30
1,2-Dibromoethane	1000	1018.74	1000	978.1	102	98	80-120	4	30
1,2-Dichlorobenzene	1000	973.83	1000	949.08	97	95	80-120	3	30
1,3-Dichlorobenzene	1000	1006.03	1000	972.49	101	97	80-120	3	30
1,4-Dichlorobenzene	1000	979.85	1000	946.42	98	95	80-120	3	30
Dichlorodifluoromethane	1000	716.94	1000	694.34	72	69	28-131	3	30
1,1-Dichloroethane	1000	1020.76	1000	965.35	102	97	77-120	6	30
1,2-Dichloroethane	1000	992.94	1000	968.42	99	97	77-130	2	30
1,1-Dichloroethene	1000	1083.72	1000	1040.02	108	104	73-129	4	30
cis-1,2-Dichloroethene	1000	1081.26	1000	1038.75	108	104	80-120	4	30
trans-1,2-Dichloroethene	1000	1079.66	1000	1067.89	108	107	80-125	1	30
1,2-Dichloropropane	1000	1022.69	1000	1017.33	102	102	76-120	1	30
cis-1,3-Dichloropropene	1000	1031.6	1000	1006.77	103	101	74-120	2	30
trans-1,3-Dichloropropene	1000	1009.87	1000	967.42	101	97	76-120	4	30
Ethylbenzene	1000	932.78	1000	904.84	93	90	80-120	3	30
Freon 113	1000	1025.79	1000	982.49	103	98	57-141	4	30
2-Hexanone	5000	4865.7	5000	4668.55	97	93	39-120	4	30
Isopropylbenzene	1000	966.8	1000	926.69	97	93	70-120	4	30
Methyl Acetate	1000	1018.89	1000	939.06	102	94	52-146	8	30
Methyl Tertiary Butyl Ether	1000	1019.83	1000	969.28	102	97	72-120	5	30
4-Methyl-2-pentanone	5000	4831.86	5000	4797	97	96	50-120	1	30
Methylcyclohexane	1000	954.09	1000	976.12	95	98	52-128	2	30
Methylene Chloride	1000	1097.45	1000	1044.86	110	104	76-122	5	30
Styrene	1000	930.48	1000	896.01	93	90	76-120	4	30
1,1,2,2-Tetrachloroethane	1000	895.34	1000	931	90	93	67-121	4	30
Tetrachloroethene	1000	1059.19	1000	983.48	106	98	78-120	7	30
Toluene	1000	1030.92	1000	944.51	103	94	80-120	9	30
1,2,4-Trichlorobenzene	1000	1110.82	1000	975.29	111	98	55-120	13	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1,1-Trichloroethane	1000	961.53	1000	934.5	96	93	66-128	3	30
1,1,2-Trichloroethane	1000	989.93	1000	935.32	99	94	80-120	6	30
Trichloroethene	1000	1031.17	1000	1008.48	103	101	80-120	2	30
Trichlorofluoromethane	1000	965.5	1000	940.98	97	94	54-140	3	30
Vinyl Chloride	1000	895.19	1000	836.94	90	84	59-120	7	30
Xylene (Total)	3000	2916.86	3000	2816.9	97	94	80-120	3	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16064SLI026	Sample number(s): 8262907-8262913								
Acenaphthene	1666.67	1736.29			104		83-116		
Acenaphthylene	1666.67	1809.88			109		83-119		
Acetophenone	1666.67	1427.27			86		74-116		
Anthracene	1666.67	1670.21			100		82-118		
Atrazine	1666.67	1417.76			85		62-143		
Benzaldehyde	1666.67	1212.1			73		10-93		
Benzo(a)anthracene	1666.67	1691.7			102		76-119		
Benzo(a)pyrene	1666.67	1664.7			100		85-117		
Benzo(b)fluoranthene	1666.67	1596.11			96		78-129		
Benzo(g,h,i)perylene	1666.67	1623.11			97		77-118		
Benzo(k)fluoranthene	1666.67	1746.47			105		79-120		
1,1'-Biphenyl	1666.67	1562.79			94		76-111		
4-Bromophenyl-phenylether	1666.67	1624.73			97		84-120		
Butylbenzylphthalate	1666.67	1708.97			103		80-118		
Di-n-butylphthalate	1666.67	1691.86			102		84-120		
Caprolactam	1666.67	1479.75			89		73-119		
Carbazole	1666.67	1644.53			99		78-117		
4-Chloro-3-methylphenol	1666.67	1756.21			105		79-127		
4-Chloroaniline	1666.67	1375.95			83		10-100		
bis(2-Chloroethoxy)methane	1666.67	1701.23			102		77-116		
bis(2-Chloroethyl)ether	1666.67	1562.91			94		77-115		
2-Chloronaphthalene	1666.67	1500.06			90		63-146		
2-Chlorophenol	1666.67	1689.33			101		85-123		
4-Chlorophenyl-phenylether	1666.67	1597.22			96		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1560.91			94		61-134		
Chrysene	1666.67	1642.06			99		80-121		
Dibenz(a,h)anthracene	1666.67	1650.95			99		81-123		
Dibenzofuran	1666.67	1663.49			100		85-115		
3,3'-Dichlorobenzidine	1666.67	1523.53			91		10-116		
2,4-Dichlorophenol	1666.67	1726.2			104		86-125		
Diethylphthalate	1666.67	1657.76			99		81-118		
2,4-Dimethylphenol	1666.67	1608.08			96		83-120		
Dimethylphthalate	1666.67	1619.56			97		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1599.73			96		46-134		
2,4-Dinitrophenol	3333.33	1865.19			56		16-132		
2,4-Dinitrotoluene	1666.67	1642.93			99		81-122		
2,6-Dinitrotoluene	1666.67	1644.22			99		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1746.96			105		81-121		
Fluoranthene	1666.67	1637.39			98		81-117		
Fluorene	1666.67	1689.66			101		86-118		
Hexachlorobenzene	1666.67	1522.34			91		79-116		
Hexachlorobutadiene	1666.67	1602.59			96		72-120		
Hexachlorocyclopentadiene	3333.33	3877.04			116		64-137		
Hexachloroethane	1666.67	1621.15			97		78-114		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Indeno(1,2,3-cd)pyrene	1666.67	1640.17			98		81-118		
Isophorone	1666.67	1689.53			101		77-118		
2-Methylnaphthalene	1666.67	1605.23			96		83-109		
2-Methylphenol	1666.67	1771.48			106		80-133		
4-Methylphenol	1666.67	1687.85			101		73-125		
Naphthalene	1666.67	1646.63			99		82-112		
2-Nitroaniline	1666.67	1762.82			106		84-126		
3-Nitroaniline	1666.67	1741.95			105		66-119		
4-Nitroaniline	1666.67	1524.82			91		44-110		
Nitrobenzene	1666.67	1658.77			100		70-122		
2-Nitrophenol	1666.67	1795.79			108		83-120		
4-Nitrophenol	1666.67	1814.23			109		52-133		
N-Nitroso-di-n-propylamine	1666.67	1561.41			94		67-121		
N-Nitrosodiphenylamine	1666.67	1636.78			98		83-118		
Di-n-octylphthalate	1666.67	1913.76			115		80-140		
Pentachlorophenol	1666.67	1323.8			79		57-126		
Phenanthrene	1666.67	1544.41			93		80-114		
Phenol	1666.67	1618.99			97		73-122		
Pyrene	1666.67	1554.4			93		81-114		
2,4,5-Trichlorophenol	1666.67	1679.63			101		86-123		
2,4,6-Trichlorophenol	1666.67	1772.22			106		81-123		
Batch number: 16068SLD026	Sample number(s): 8262914-8262916,8262918-8262923,8262925-8262927								
Acenaphthene	1666.67	1678.79			101		83-116		
Acenaphthylene	1666.67	1815.57			109		83-119		
Acetophenone	1666.67	1571.6			94		74-116		
Anthracene	1666.67	1696.67			102		82-118		
Atrazine	1666.67	1513.44			91		62-143		
Benzaldehyde	1666.67	1057.72			63		10-93		
Benzo(a)anthracene	1666.67	1598.36			96		76-119		
Benzo(a)pyrene	1666.67	1659.41			100		85-117		
Benzo(b)fluoranthene	1666.67	1595.24			96		78-129		
Benzo(g,h,i)perylene	1666.67	1835.09			110		77-118		
Benzo(k)fluoranthene	1666.67	1751.28			105		79-120		
1,1'-Biphenyl	1666.67	1491.75			90		76-111		
4-Bromophenyl-phenylether	1666.67	1901.12			114		84-120		
Butylbenzylphthalate	1666.67	1825.86			110		80-118		
Di-n-butylphthalate	1666.67	1724.08			103		84-120		
Caprolactam	1666.67	1687.92			101		73-119		
Carbazole	1666.67	1670.14			100		78-117		
4-Chloro-3-methylphenol	1666.67	1966.39			118		79-127		
4-Chloroaniline	1666.67	652.21			39		10-100		
bis(2-Chloroethoxy)methane	1666.67	1769.45			106		77-116		
bis(2-Chloroethyl)ether	1666.67	1540.07			92		77-115		
2-Chloronaphthalene	1666.67	1679.43			101		63-146		
2-Chlorophenol	1666.67	1815.9			109		85-123		
4-Chlorophenyl-phenylether	1666.67	1641.71			99		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1522.87			91		61-134		
Chrysene	1666.67	1699.01			102		80-121		
Dibenz(a,h)anthracene	1666.67	1792.43			108		81-123		
Dibenzofuran	1666.67	1662.17			100		85-115		
3,3'-Dichlorobenzidine	1666.67	1673.83			100		10-116		
2,4-Dichlorophenol	1666.67	1822.24			109		86-125		
Diethylphthalate	1666.67	1711.41			103		81-118		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2,4-Dimethylphenol	1666.67	1865.49			112		83-120		
Dimethylphthalate	1666.67	1709.27			103		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1686.78			101		46-134		
2,4-Dinitrophenol	3333.33	2511.14			75		16-132		
2,4-Dinitrotoluene	1666.67	1730.97			104		81-122		
2,6-Dinitrotoluene	1666.67	1700.71			102		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1739.66			104		81-121		
Fluoranthene	1666.67	1537.74			92		81-117		
Fluorene	1666.67	1636.7			98		86-118		
Hexachlorobenzene	1666.67	1781.46			107		79-116		
Hexachlorobutadiene	1666.67	1698.86			102		72-120		
Hexachlorocyclopentadiene	3333.33	3981.94			119		64-137		
Hexachloroethane	1666.67	1713.07			103		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1752.24			105		81-118		
Isophorone	1666.67	1798.64			108		77-118		
2-Methylnaphthalene	1666.67	1732.85			104		83-109		
2-Methylphenol	1666.67	1822.72			109		80-133		
4-Methylphenol	1666.67	1824.72			109		73-125		
Naphthalene	1666.67	1652.27			99		82-112		
2-Nitroaniline	1666.67	1834.66			110		84-126		
3-Nitroaniline	1666.67	1615.21			97		66-119		
4-Nitroaniline	1666.67	1487.93			89		44-110		
Nitrobenzene	1666.67	1738.33			104		70-122		
2-Nitrophenol	1666.67	1825.03			110		83-120		
4-Nitrophenol	1666.67	1591.58			95		52-133		
N-Nitroso-di-n-propylamine	1666.67	1781.5			107		67-121		
N-Nitrosodiphenylamine	1666.67	1607.53			96		83-118		
Di-n-octylphthalate	1666.67	1696.17			102		80-140		
Pentachlorophenol	1666.67	1849.76			111		57-126		
Phenanthrene	1666.67	1568.35			94		80-114		
Phenol	1666.67	1720.67			103		73-122		
Pyrene	1666.67	1629.66			98		81-114		
2,4,5-Trichlorophenol	1666.67	1818.59			109		86-123		
2,4,6-Trichlorophenol	1666.67	1743.76			105		81-123		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 160620007A	Sample number(s): 8262907-8262916,8262918-8262921								
4-Amino-2,6-Dinitrotoluene	2010	2095.69			104		42-138		
2-Amino-4,6-Dinitrotoluene	2010	2179.1			108		43-141		
2,6-Diamino-4-nitrotoluene	1800	1799.58	1800	1808.96	100	100	80-115	1	50
2,4-Diamino-6-nitrotoluene	1810	1714.41	1810	1685.24	95	93	79-115	2	50
3,5-Dinitroaniline	2000	2177.8			109		47-141		
1,3-Dinitrobenzene	2000	2227.13			111		54-140		
2,4-Dinitrotoluene	2010	2201.97			110		52-137		
2,6-Dinitrotoluene	2010	2115.77			105		51-138		
HMX	2010	2254.22			112		29-148		
Nitrobenzene	2000	2382.09			119		64-138		
Nitroglycerin	22100	21640.2			98		45-137		
2-Nitrotoluene	2010	2106.12			105		57-135		
3-Nitrotoluene	2010	2104.14			105		57-135		
4-Nitrotoluene	2000	2099.66			105		53-133		
PETN	22100	22114.54			100		36-143		
RDX	2000	2368.44			118		45-145		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Tetryl	2000	2182.51			109		38-152		
1,3,5-Trinitrobenzene	2010	2218.59			110		48-141		
2,4,6-Trinitrotoluene	2000	2242.27			112		47-140		
Batch number: 160620008A	Sample number(s): 8262922-8262923,8262925-8262927								
4-Amino-2,6-Dinitrotoluene	2010	2117.77			105		42-138		
2-Amino-4,6-Dinitrotoluene	2010	2207.77			110		43-141		
2,6-Diamino-4-nitrotoluene	1800	1818.4	1800	1812.21	101	101	80-115	0	50
2,4-Diamino-6-nitrotoluene	1810	1548.8	1810	1545.04	86	85	79-115	0	50
3,5-Dinitroaniline	2000	2215.05			111		47-141		
1,3-Dinitrobenzene	2000	2250.76			113		54-140		
2,4-Dinitrotoluene	2010	2209.92			110		52-137		
2,6-Dinitrotoluene	2010	2127.91			106		51-138		
HMX	2010	2290.19			114		29-148		
Nitrobenzene	2000	2380.71			119		64-138		
Nitroglycerin	22100	21601.63			98		45-137		
2-Nitrotoluene	2010	2135.58			106		57-135		
3-Nitrotoluene	2010	2113.38			105		57-135		
4-Nitrotoluene	2000	2105.52			105		53-133		
PETN	22100	22272.29			101		36-143		
RDX	2000	2415.21			121		45-145		
Tetryl	2000	2114.55			106		38-152		
1,3,5-Trinitrobenzene	2010	2231.34			111		48-141		
2,4,6-Trinitrotoluene	2000	2180.62			109		47-140		
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160640033A	Sample number(s): 8262907-8262916,8262918-8262922								
PCB-1016	168	159.87			95		76-121		
PCB-1260	168	196.79			117		79-130		
Batch number: 160660011A	Sample number(s): 8262923,8262925-8262927								
PCB-1016	168	158.32			94		76-121		
PCB-1260	168	194.91			116		79-130		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160670008A	Sample number(s): 8262907-8262916								
Ethylene glycol	104	99.29			95		76-122		
Batch number: 160670009A	Sample number(s): 8262918-8262923,8262925-8262927								
Ethylene glycol	104	90.31			87		76-122		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160620637001	Sample number(s): 8262907-8262923								
Aluminum	200	203.13			102		80-120		
Barium	200	201.89			101		80-120		
Calcium	400	406.14			102		80-120		
Cobalt	50	50.48			101		80-120		
Copper	25	26.43			106		80-120		
Iron	100	100.84			101		80-120		
Lead	15	15.47			103		80-120		
Magnesium	200	203.56			102		80-120		
Manganese	50	49.93			100		80-120		
Nickel	50	51.45			103		80-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Potassium	1000	1000.87			100		80-120		
Sodium	1000	1000.81			100		80-120		
Titanium	100	101.23			101		80-120		
Vanadium	50	52.42			105		80-120		
Zinc	50	49.63			99		80-120		
Batch number: 160620637001A	Sample number(s): 8262907-8262923								
Antimony	0.600	0.614			102		80-120		
Arsenic	1.00	1.06			106		80-120		
Beryllium	0.400	0.435			109		80-120		
Cadmium	0.500	0.534			107		80-120		
Chromium	5.00	5.10			102		80-120		
Silver	5.00	5.19			104		80-120		
Thallium	0.200	0.214			107		80-120		
Batch number: 160620637001B	Sample number(s): 8262907-8262923								
Selenium	1.00	1.09			109		80-120		
Batch number: 160620638001	Sample number(s): 8262907-8262923								
Mercury	0.100	0.0926			93		80-120		
Batch number: 160630637002	Sample number(s): 8262925-8262927								
Aluminum	200	211.3			106		80-120		
Barium	200	205.61			103		80-120		
Calcium	400	420.73			105		80-120		
Cobalt	50	51.36			103		80-120		
Copper	25	26.46			106		80-120		
Iron	100	101.39			101		80-120		
Lead	15	15.44			103		80-120		
Magnesium	200	211.28			106		80-120		
Manganese	50	51.28			103		80-120		
Nickel	50	52.88			106		80-120		
Potassium	1000	1040.1			104		80-120		
Sodium	1000	1041.55			104		80-120		
Titanium	100	102.36			102		80-120		
Vanadium	50	52.61			105		80-120		
Zinc	50	51.09			102		80-120		
Batch number: 160630637002A	Sample number(s): 8262925-8262927								
Antimony	0.600	0.614			102		80-120		
Arsenic	1.00	1.10			110		80-120		
Beryllium	0.400	0.418			105		80-120		
Cadmium	0.500	0.521			104		80-120		
Chromium	5.00	5.26			105		80-120		
Silver	5.00	5.44			109		80-120		
Thallium	0.200	0.213			107		80-120		
Batch number: 160630637002B	Sample number(s): 8262925-8262927								
Selenium	1.00	1.05			105		80-120		
Batch number: 160630638002	Sample number(s): 8262925-8262927								
Mercury	0.100	0.0920			92		80-120		
	%	%	%	%					
Batch number: 16063820005A	Sample number(s): 8262907-8262917								

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added %	LCS Conc %	LCSD Spike Added %	LCSD Conc %	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Moisture	89.5	89.45			100		99-101		
Moisture	89.5	89.45			100		99-101		
Moisture Duplicate	89.5	89.45			100		99-101		
Batch number: 16063820005B	Sample number(s): 8262918-8262923,8262925-8262927								
Moisture	89.5	89.45			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A160681AA	Sample number(s): 8262909 UNSPK: P262180									
Acetone	32.55	193.8	373.87	210.09	607.24	176*	274*	46-139	48*	30
Benzene	< 5	25.84	29.18	28.01	36.21	113	129*	80-120	21	30
Bromodichloromethane	< 5	25.84	23.48	28.01	26.45	91	94	75-120	12	30
Bromoform	< 5	25.84	18.6	28.01	17.25	72	62*	64-120	8	30
Bromomethane	< 5	25.84	29.53	28.01	42.05	114	150	16-200	35*	30
2-Butanone	6.14	193.8	178.27	210.09	281.45	89	131*	54-129	45*	30
Carbon Disulfide	< 5	25.84	28.78	28.01	37.24	111	133*	60-120	26	30
Carbon Tetrachloride	< 5	25.84	24.12	28.01	25.9	93	92	69-130	7	30
Chlorobenzene	< 5	25.84	24.37	28.01	27.31	94	98	80-120	11	30
Chloroethane	< 5	25.84	25.46	28.01	37.53	99	134	11-200	38*	30
Chloroform	< 5	25.84	28.24	28.01	36.85	109	132*	80-120	26	30
Chloromethane	< 5	25.84	32.21	28.01	47.41	125*	169*	56-120	38*	30
Cyclohexane	14.96	25.84	18.81	28.01	24.54	15*	34*	58-120	26	30
1,2-Dibromo-3-chloropropane	< 5	25.84	24.29	28.01	25.94	94	93	54-120	7	30
Dibromochloromethane	< 5	25.84	24.43	28.01	29.65	95	106	77-120	19	30
1,2-Dibromoethane	< 5	25.84	28.66	28.01	37.72	111	135*	80-120	27	30
1,2-Dichlorobenzene	< 5	25.84	18.16	28.01	20.49	70*	73*	80-120	12	30
1,3-Dichlorobenzene	< 5	25.84	19.24	28.01	25.63	74*	91	80-120	28	30
1,4-Dichlorobenzene	< 5	25.84	19.48	28.01	25.15	75*	90	80-120	25	30
Dichlorodifluoromethane	< 5	25.84	27.66	28.01	33.4	107	119	28-131	19	30
1,1-Dichloroethane	< 5	25.84	29.42	28.01	41.61	114	149*	77-120	34*	30
1,2-Dichloroethane	< 5	25.84	25.7	28.01	36.35	99	130	77-130	34*	30
1,1-Dichloroethene	< 5	25.84	30.78	28.01	42.15	119	150*	73-129	31*	30
cis-1,2-Dichloroethene	< 5	25.84	28.87	28.01	41.73	112	149*	80-120	36*	30
trans-1,2-Dichloroethene	< 5	25.84	30.39	28.01	43.24	118	154*	80-125	35*	30
1,2-Dichloropropane	< 5	25.84	28.07	28.01	32.56	109	116	76-120	15	30
cis-1,3-Dichloropropene	< 5	25.84	23.54	28.01	26.15	91	93	74-120	10	30
trans-1,3-Dichloropropene	< 5	25.84	27.71	28.01	37.4	107	134*	76-120	30	30
Ethylbenzene	< 5	25.84	21.97	28.01	26.35	85	94	80-120	18	30
Freon 113	< 10	25.84	27.12	28.01	32.74	105	117	57-141	19	30
2-Hexanone	< 10	129.2	157.1	140.06	279.15	122*	199*	39-120	56*	30
Isopropylbenzene	33.49	25.84	16.17	28.01	22.88	-66*	-37*	70-120	34*	30
Methyl Acetate	< 5	25.84	26.56	28.01	59.58	103	213*	52-146	77*	30
Methyl Tertiary Butyl Ether	< 5	25.84	27.58	28.01	44.28	107	158*	72-120	46*	30
4-Methyl-2-pentanone	< 10	129.2	126.59	140.06	186.59	98	133*	50-120	38*	30
Methylcyclohexane	53.23	25.84	11.28	28.01	24.01	-161*	-103*	52-128	72*	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Methylene Chloride	< 5	25.84	27.62	28.01	43.57	107	156*	76-122	45*	30
Styrene	< 5	25.84	20.83	28.01	20.69	81	74*	76-120	1	30
1,1,2,2-Tetrachloroethane	< 5	25.84	35.18	28.01	59.06	136*	211*	67-121	51*	30
Tetrachloroethene	< 5	25.84	23.46	28.01	33.32	91	119	78-120	35*	30
Toluene	< 5	25.84	31	28.01	41.35	120	148*	80-120	29	30
1,2,4-Trichlorobenzene	< 5	25.84	8.95	28.01	19.02	35*	68	55-120	72*	30
1,1,1-Trichloroethane	< 5	25.84	26.28	28.01	27.29	102	97	66-128	4	30
1,1,2-Trichloroethane	< 5	25.84	29.85	28.01	44.36	116	158*	80-120	39*	30
Trichloroethene	< 5	25.84	26.46	28.01	28.36	102	101	80-120	7	30
Trichlorofluoromethane	< 5	25.84	29.52	28.01	32.87	114	117	54-140	11	30
Vinyl Chloride	< 5	25.84	32.07	28.01	45.5	124*	162*	59-120	35*	30
Xylene (Total)	1.49	77.52	62.74	84.04	73.11	79*	85	80-120	15	30
Batch number: A160691AA	Sample number(s): 8262907,8262910-8262916,8262918-8262924 UNSPK: 8262914									
Acetone	15.19	151.82	138.71	160.95	108.11	81	58	46-139	25	30
Benzene	< 6	20.24	21.42	21.46	20.85	106	97	80-120	3	30
Bromodichloromethane	< 6	20.24	19.16	21.46	17.82	95	83	75-120	7	30
Bromoform	< 6	20.24	19.04	21.46	16.29	94	76	64-120	16	30
Bromomethane	< 6	20.24	15.02	21.46	14.57	74	68	16-200	3	30
2-Butanone	< 13	151.82	134.53	160.95	107.57	89	67	54-129	22	30
Carbon Disulfide	< 6	20.24	20.95	21.46	20.79	103	97	60-120	1	30
Carbon Tetrachloride	< 6	20.24	21.2	21.46	20.95	105	98	69-130	1	30
Chlorobenzene	< 6	20.24	19.73	21.46	19.21	97	90	80-120	3	30
Chloroethane	< 6	20.24	15.16	21.46	14.69	75	68	11-200	3	30
Chloroform	< 6	20.24	20.59	21.46	19.74	102	92	80-120	4	30
Chloromethane	< 6	20.24	13.99	21.46	13.37	69	62	56-120	5	30
Cyclohexane	< 6	20.24	23.23	21.46	23.4	115	109	58-120	1	30
1,2-Dibromo-3-chloropropane	< 6	20.24	21.36	21.46	16.31	106	76	54-120	27	30
Dibromochloromethane	< 6	20.24	18.97	21.46	17.11	94	80	77-120	10	30
1,2-Dibromoethane	< 6	20.24	20.8	21.46	18.91	103	88	80-120	10	30
1,2-Dichlorobenzene	< 6	20.24	19.46	21.46	18.22	96	85	80-120	7	30
1,3-Dichlorobenzene	< 6	20.24	19.22	21.46	18.49	95	86	80-120	4	30
1,4-Dichlorobenzene	< 6	20.24	18.75	21.46	17.83	93	83	80-120	5	30
Dichlorodifluoromethane	< 6	20.24	11.32	21.46	10.82	56	50	28-131	4	30
1,1-Dichloroethane	< 6	20.24	20.57	21.46	20.28	102	95	77-120	1	30
1,2-Dichloroethane	< 6	20.24	19.75	21.46	17.98	98	84	77-130	9	30
1,1-Dichloroethene	< 6	20.24	22.26	21.46	22.26	110	104	73-129	0	30
cis-1,2-Dichloroethene	< 6	20.24	22.16	21.46	21.51	109	100	80-120	3	30
trans-1,2-Dichloroethene	< 6	20.24	22.47	21.46	21.97	111	102	80-125	2	30
1,2-Dichloropropane	< 6	20.24	21.52	21.46	20.77	106	97	76-120	4	30
cis-1,3-Dichloropropene	< 6	20.24	20.25	21.46	18.89	100	88	74-120	7	30
trans-1,3-Dichloropropene	< 6	20.24	19.9	21.46	18.32	98	85	76-120	8	30
Ethylbenzene	< 6	20.24	20.75	21.46	20.63	102	96	80-120	1	30
Freon 113	< 13	20.24	23.07	21.46	22.44	114	105	57-141	3	30
2-Hexanone	< 13	101.21	109.79	107.3	87.78	108	82	39-120	22	30
Isopropylbenzene	< 6	20.24	21.71	21.46	21.44	107	100	70-120	1	30
Methyl Acetate	< 6	20.24	22.71	21.46	18.04	112	84	52-146	23	30
Methyl Tertiary Butyl Ether	< 6	20.24	21.65	21.46	19.01	107	89	72-120	13	30
4-Methyl-2-pentanone	< 13	101.21	112.84	107.3	89.71	111	84	50-120	23	30
Methylcyclohexane	< 6	20.24	24.41	21.46	23.75	121	111	52-128	3	30
Methylene Chloride	2.63	20.24	20.69	21.46	21.21	89	87	76-122	2	30
Styrene	< 6	20.24	17.79	21.46	16.79	88	78	76-120	6	30
1,1,2,2-Tetrachloroethane	< 6	20.24	21.62	21.46	18.3	107	85	67-121	17	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Tetrachloroethene	< 6	20.24	21.27	21.46	21.18	105	99	78-120	0	30
Toluene	< 6	20.24	20.8	21.46	20.61	103	96	80-120	1	30
1,2,4-Trichlorobenzene	< 6	20.24	18.26	21.46	16.48	90	77	55-120	10	30
1,1,1-Trichloroethane	< 6	20.24	20.11	21.46	19.87	99	93	66-128	1	30
1,1,2-Trichloroethane	< 6	20.24	19.45	21.46	17.95	96	84	80-120	8	30
Trichloroethene	< 6	20.24	21.58	21.46	21.01	107	98	80-120	3	30
Trichlorofluoromethane	< 6	20.24	16.92	21.46	16.03	84	75	54-140	5	30
Vinyl Chloride	< 6	20.24	15.52	21.46	15.23	77	71	59-120	2	30
Xylene (Total)	< 6	60.73	62.14	64.38	61.27	102	95	80-120	1	30
Batch number: A160692AA	Sample number(s): 8262925 UNSPK: P262937									
Acetone	16.63	146.78	156.96	167.79	162.95	96	87	46-139	4	30
Benzene	< 5	19.57	22.28	22.37	22.63	114	101	80-120	2	30
Bromodichloromethane	< 5	19.57	20.6	22.37	20.51	105	92	75-120	0	30
Bromoform	< 5	19.57	19.65	22.37	19.47	100	87	64-120	1	30
Bromomethane	< 5	19.57	20.1	22.37	20.63	103	92	16-200	3	30
2-Butanone	< 10	146.78	154.48	167.79	154.9	105	92	54-129	0	30
Carbon Disulfide	< 5	19.57	20.68	22.37	21.17	106	95	60-120	2	30
Carbon Tetrachloride	< 5	19.57	22.48	22.37	22.9	115	102	69-130	2	30
Chlorobenzene	< 5	19.57	20.84	22.37	21.39	106	96	80-120	3	30
Chloroethane	< 5	19.57	19.54	22.37	20.6	100	92	11-200	5	30
Chloroform	< 5	19.57	21.91	22.37	21.97	112	98	80-120	0	30
Chloromethane	< 5	19.57	18.65	22.37	19.34	95	86	56-120	4	30
Cyclohexane	< 5	19.57	23.86	22.37	24.28	122*	109	58-120	2	30
1,2-Dibromo-3-chloropropane	< 5	19.57	20.99	22.37	20.46	107	91	54-120	3	30
Dibromochloromethane	< 5	19.57	20.33	22.37	20.08	104	90	77-120	1	30
1,2-Dibromoethane	< 5	19.57	22.11	22.37	21.73	113	97	80-120	2	30
1,2-Dichlorobenzene	< 5	19.57	20.5	22.37	20.9	105	93	80-120	2	30
1,3-Dichlorobenzene	< 5	19.57	20.29	22.37	20.88	104	93	80-120	3	30
1,4-Dichlorobenzene	< 5	19.57	19.87	22.37	20.68	102	92	80-120	4	30
Dichlorodifluoromethane	< 5	19.57	17.91	22.37	18.36	92	82	28-131	2	30
1,1-Dichloroethane	< 5	19.57	21.44	22.37	21.71	110	97	77-120	1	30
1,2-Dichloroethane	< 5	19.57	20.91	22.37	20.77	107	93	77-130	1	30
1,1-Dichloroethene	< 5	19.57	22.65	22.37	22.91	116	102	73-129	1	30
cis-1,2-Dichloroethene	< 5	19.57	23.29	22.37	23.49	119	105	80-120	1	30
trans-1,2-Dichloroethene	< 5	19.57	23.19	22.37	23.32	118	104	80-125	1	30
1,2-Dichloropropane	< 5	19.57	22.33	22.37	22.35	114	100	76-120	0	30
cis-1,3-Dichloropropene	< 5	19.57	21.17	22.37	21.22	108	95	74-120	0	30
trans-1,3-Dichloropropene	< 5	19.57	21.08	22.37	20.91	108	93	76-120	1	30
Ethylbenzene	< 5	19.57	21.92	22.37	22.67	112	101	80-120	3	30
Freon 113	< 10	19.57	23.67	22.37	23.48	121	105	57-141	1	30
2-Hexanone	< 10	97.85	105.99	111.86	103.86	108	93	39-120	2	30
Isopropylbenzene	< 5	19.57	23.21	22.37	24	119	107	70-120	3	30
Methyl Acetate	< 5	19.57	21.26	22.37	22.21	109	99	52-146	4	30
Methyl Tertiary Butyl Ether	< 5	19.57	22.15	22.37	21.84	113	98	72-120	1	30
4-Methyl-2-pentanone	< 10	97.85	108.35	111.86	106.55	111	95	50-120	2	30
Methylcyclohexane	< 5	19.57	23.82	22.37	25.79	122	115	52-128	8	30
Methylene Chloride	< 5	19.57	21.03	22.37	21.59	107	96	76-122	3	30
Styrene	< 5	19.57	21.21	22.37	17.08	108	76	76-120	22	30
1,1,2,2-Tetrachloroethane	< 5	19.57	22.02	22.37	21.49	113	96	67-121	2	30
Tetrachloroethene	< 5	19.57	22.95	22.37	23.25	117	104	78-120	1	30
Toluene	< 5	19.57	21.84	22.37	22.42	112	100	80-120	3	30
1,2,4-Trichlorobenzene	< 5	19.57	19.56	22.37	19.62	100	88	55-120	0	30

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(1) The result for one or both determinations was less than five times the LOQ.
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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,1,1-Trichloroethane	< 5	19.57	19.53	22.37	19.87	100	89	66-128	2	30
1,1,2-Trichloroethane	< 5	19.57	20.76	22.37	20.66	106	92	80-120	0	30
Trichloroethene	< 5	19.57	22.38	22.37	22.94	114	103	80-120	2	30
Trichlorofluoromethane	< 5	19.57	21.88	22.37	22.46	112	100	54-140	3	30
Vinyl Chloride	< 5	19.57	20.49	22.37	21.22	105	95	59-120	3	30
Xylene (Total)	< 5	58.71	65.96	67.12	67.75	112	101	80-120	3	30
Batch number: R160621AA	Sample number(s): 8262926 UNSPK: P260957									
Acetone	< 960	8970.9	7435.09	7562.72	7019.05	83	93	46-139	6	30
Benzene	< 240	1196.12	1093.21	1008.36	1015.33	91	101	80-120	7	30
Bromodichloromethane	< 240	1196.12	1073.69	1008.36	1023.24	90	101	75-120	5	30
Bromoform	< 240	1196.12	1121.95	1008.36	1082.91	94	107	64-120	4	30
Bromomethane	< 240	1196.12	971.92	1008.36	971.31	81	96	16-200	0	30
2-Butanone	< 480	8970.9	8028.56	7562.72	7507.9	89	99	54-129	7	30
Carbon Disulfide	< 240	1196.12	1126.94	1008.36	1078.2	94	107	60-120	4	30
Carbon Tetrachloride	< 240	1196.12	1086.11	1008.36	1043.67	91	104	69-130	4	30
Chlorobenzene	< 240	1196.12	1066.01	1008.36	1004.86	89	100	80-120	6	30
Chloroethane	< 240	1196.12	956.36	1008.36	920.44	80	91	11-200	4	30
Chloroform	< 240	1196.12	1144.49	1008.36	1084.68	96	108	80-120	5	30
Chloromethane	< 240	1196.12	819.42	1008.36	838	69	83	56-120	2	30
Cyclohexane	< 240	1196.12	1032.11	1008.36	896.28	86	89	58-120	14	30
1,2-Dibromo-3-chloropropane	< 240	1196.12	953.7	1008.36	898.24	80	89	54-120	6	30
Dibromochloromethane	< 240	1196.12	1146.65	1008.36	1062.95	96	105	77-120	8	30
1,2-Dibromoethane	< 240	1196.12	1110.9	1008.36	1058.22	93	105	80-120	5	30
1,2-Dichlorobenzene	< 240	1196.12	1082.76	1008.36	1027.82	91	102	80-120	5	30
1,3-Dichlorobenzene	< 240	1196.12	1104.49	1008.36	1042.06	92	103	80-120	6	30
1,4-Dichlorobenzene	< 240	1196.12	1084.02	1008.36	1014.7	91	101	80-120	7	30
Dichlorodifluoromethane	< 240	1196.12	393.92	1008.36	427.07	33	42	28-131	8	30
1,1-Dichloroethane	< 240	1196.12	1109.89	1008.36	1057.91	93	105	77-120	5	30
1,2-Dichloroethane	< 240	1196.12	1110.9	1008.36	1025.34	93	102	77-130	8	30
1,1-Dichloroethene	84.99	1196.12	1196.77	1008.36	1112.29	93	102	73-129	7	30
cis-1,2-Dichloroethene	< 240	1196.12	1161.16	1008.36	1085.76	97	108	80-120	7	30
trans-1,2-Dichloroethene	< 240	1196.12	1177.67	1008.36	1110.07	98	110	80-125	6	30
1,2-Dichloropropane	< 240	1196.12	1125.14	1008.36	1055.06	94	105	76-120	6	30
cis-1,3-Dichloropropene	< 240	1196.12	1108.22	1008.36	1061.8	93	105	74-120	4	30
trans-1,3-Dichloropropene	< 240	1196.12	1111.27	1008.36	1071.17	93	106	76-120	4	30
Ethylbenzene	< 240	1196.12	1075.82	1008.36	994.99	90	99	80-120	8	30
Freon 113	< 480	1196.12	909.51	1008.36	905.1	76	90	57-141	0	30
2-Hexanone	< 480	5980.6	5711.72	5041.81	5457.62	96	108	39-120	5	30
Isopropylbenzene	< 240	1196.12	1090.75	1008.36	1028.92	91	102	70-120	6	30
Methyl Acetate	< 240	1196.12	1193.06	1008.36	1097.35	100	109	52-146	8	30
Methyl Tertiary Butyl Ether	< 240	1196.12	1140.8	1008.36	1055.41	95	105	72-120	8	30
4-Methyl-2-pentanone	< 480	5980.6	5583.06	5041.81	5323.02	93	106	50-120	5	30
Methylcyclohexane	92.56	1196.12	1259.6	1008.36	953.72	98	85	52-128	28	30
Methylene Chloride	< 240	1196.12	1188.11	1008.36	1112.68	99	110	76-122	7	30
Styrene	< 240	1196.12	1034.1	1008.36	978.14	86	97	76-120	6	30
1,1,2,2-Tetrachloroethane	< 240	1196.12	1091.71	1008.36	1031.67	91	102	67-121	6	30
Tetrachloroethene	34342.72	1196.12	36386.02	1008.36	14968.2	171 (2)	-1920 (2)	78-120	83*	30
Toluene	< 240	1196.12	1225.37	1008.36	1076.85	102	107	80-120	13	30
1,2,4-Trichlorobenzene	< 240	1196.12	1001.39	1008.36	1024.11	84	102	55-120	2	30
1,1,1-Trichloroethane	967.26	1196.12	2183.4	1008.36	1417.54	102	45*	66-128	43*	30
1,1,2-Trichloroethane	< 240	1196.12	1078.59	1008.36	1038.02	90	103	80-120	4	30

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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Trichloroethene	675.16	1196.12	1895.42	1008.36	1363.61	102	68*	80-120	33*	30
Trichlorofluoromethane	< 240	1196.12	970.35	1008.36	951.99	81	94	54-140	2	30
Vinyl Chloride	< 240	1196.12	833.38	1008.36	840.57	70	83	59-120	1	30
Xylene (Total)	< 240	3588.36	3590.25	3025.09	3099.32	100	102	80-120	15	30
Batch number: R160633AA	Sample number(s): 8262908 UNSPK: P262196									
Acetone	< 1,900	14693.47	13065.4	12860.23	11311.68	89	88	46-139	14	30
Benzene	< 470	1959.13	1873.05	1714.7	1573.3	96	92	80-120	17	30
Bromodichloromethane	< 470	1959.13	1903.84	1714.7	1661.92	97	97	75-120	14	30
Bromoform	< 470	1959.13	1960.7	1714.7	1726.79	100	101	64-120	13	30
Bromomethane	< 470	1959.13	1623.15	1714.7	1389.1	83	81	16-200	16	30
2-Butanone	< 950	14693.47	14275.23	12860.23	11598.32	97	90	54-129	21	30
Carbon Disulfide	< 470	1959.13	1405.12	1714.7	1219.51	72	71	60-120	14	30
Carbon Tetrachloride	< 470	1959.13	1750.15	1714.7	1433.88	89	84	69-130	20	30
Chlorobenzene	< 470	1959.13	1792.7	1714.7	1595.6	92	93	80-120	12	30
Chloroethane	< 470	1959.13	1433.93	1714.7	1194.69	73	70	11-200	18	30
Chloroform	< 470	1959.13	1854.25	1714.7	1658.81	95	97	80-120	11	30
Chloromethane	< 470	1959.13	1142.42	1714.7	979.85	58	57	56-120	15	30
Cyclohexane	< 470	1959.13	1293.01	1714.7	1067.19	66	62	58-120	19	30
1,2-Dibromo-3-chloropropane	< 470	1959.13	1514.64	1714.7	1583.95	77	92	54-120	4	30
Dibromochloromethane	< 470	1959.13	1906.6	1714.7	1668.86	97	97	77-120	13	30
1,2-Dibromoethane	< 470	1959.13	1936.97	1714.7	1723.65	99	101	80-120	12	30
1,2-Dichlorobenzene	< 470	1959.13	1819.53	1714.7	1700.52	93	99	80-120	7	30
1,3-Dichlorobenzene	< 470	1959.13	1887.02	1714.7	1706.15	96	100	80-120	10	30
1,4-Dichlorobenzene	< 470	1959.13	1840.78	1714.7	1648.67	94	96	80-120	11	30
Dichlorodifluoromethane	< 470	1959.13	588.84	1714.7	582.04	30	34	28-131	1	30
1,1-Dichloroethane	< 470	1959.13	1719.45	1714.7	1515.97	88	88	77-120	13	30
1,2-Dichloroethane	< 470	1959.13	1916.1	1714.7	1594.26	98	93	77-130	18	30
1,1-Dichloroethene	< 470	1959.13	1550.01	1714.7	1320.21	79	77	73-129	16	30
cis-1,2-Dichloroethene	< 470	1959.13	1947.38	1714.7	1700.61	99	99	80-120	14	30
trans-1,2-Dichloroethene	< 470	1959.13	1766.56	1714.7	1471.29	90	86	80-125	18	30
1,2-Dichloropropane	< 470	1959.13	1967.33	1714.7	1703.63	100	99	76-120	14	30
cis-1,3-Dichloropropene	< 470	1959.13	1999.33	1714.7	1737.04	102	101	74-120	14	30
trans-1,3-Dichloropropene	< 470	1959.13	1961.19	1714.7	1705.74	100	99	76-120	14	30
Ethylbenzene	< 470	1959.13	1771.87	1714.7	1536.05	90	90	80-120	14	30
Freon 113	< 950	1959.13	1125.59	1714.7	907.18	57	53*	57-141	21	30
2-Hexanone	< 950	9795.65	10035.28	8573.49	8595.65	102	100	39-120	15	30
Isopropylbenzene	< 470	1959.13	1978.5	1714.7	1794.3	101	105	70-120	10	30
Methyl Acetate	< 470	1959.13	2008.07	1714.7	1971.45	102	115	52-146	2	30
Methyl Tertiary Butyl Ether	< 470	1959.13	1906.41	1714.7	1711.97	97	100	72-120	11	30
4-Methyl-2-pentanone	< 950	9795.65	10171.97	8573.49	8694.16	104	101	50-120	16	30
Methylcyclohexane	245.31	1959.13	1507.53	1714.7	1288.45	64	61	52-128	16	30
Methylene Chloride	< 470	1959.13	1860.59	1714.7	1674.33	95	98	76-122	11	30
Styrene	< 470	1959.13	1830.16	1714.7	1595.62	93	93	76-120	14	30
1,1,2,2-Tetrachloroethane	< 470	1959.13	1814.83	1714.7	1592.68	93	93	67-121	13	30
Tetrachloroethene	< 470	1959.13	2785.88	1714.7	2348.61	142*	137*	78-120	17	30
Toluene	< 470	1959.13	1852.94	1714.7	1609.22	95	94	80-120	14	30
1,2,4-Trichlorobenzene	< 470	1959.13	1798.89	1714.7	1801.35	92	105	55-120	0	30
1,1,1-Trichloroethane	< 470	1959.13	1533.39	1714.7	1297.8	78	76	66-128	17	30
1,1,2-Trichloroethane	< 470	1959.13	1916.67	1714.7	1758.95	98	103	80-120	9	30
Trichloroethene	< 470	1959.13	1961.67	1714.7	1659.62	100	97	80-120	17	30
Trichlorofluoromethane	< 470	1959.13	1395.89	1714.7	1181.38	71	69	54-140	17	30
Vinyl Chloride	< 470	1959.13	1092.37	1714.7	978.8	56*	57*	59-120	11	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Xylene (Total)	< 470	5877.39	5583.63	5144.09	4857.38	95	94	80-120	14	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16064SLI026	Sample number(s): 8262907-8262913 UNSPK: P262196									
Acenaphthene	< 17	1665.56	1555.93	1657.28	1525.9	93	92	83-116	2	30
Acenaphthylene	< 17	1665.56	1583.17	1657.28	1605.99	95	97	83-119	1	30
Acetophenone	< 33	1665.56	1274.37	1657.28	1341.04	77	81	74-116	5	30
Anthracene	28.14	1665.56	1620.47	1657.28	1663.2	96	99	82-118	3	30
Atrazine	< 170	1665.56	1453.21	1657.28	1522.87	87	92	62-143	5	30
Benzaldehyde	< 170	1665.56	1146.24	1657.28	1145.13	69	69	10-93	0	30
Benzo(a)anthracene	53.84	1665.56	1535.17	1657.28	1600.06	89	93	76-119	4	30
Benzo(a)pyrene	39.33	1665.56	1544.23	1657.28	1647.36	90	97	85-117	6	30
Benzo(b)fluoranthene	45.82	1665.56	1514.35	1657.28	1463.82	88	86	78-129	3	30
Benzo(g,h,i)perylene	29.62	1665.56	1548.46	1657.28	1645.74	91	98	77-118	6	30
Benzo(k)fluoranthene	< 17	1665.56	1585.29	1657.28	1645.76	95	99	79-120	4	30
1,1'-Biphenyl	< 33	1665.56	1369.61	1657.28	1354.75	82	82	76-111	1	30
4-Bromophenyl-phenylether	< 33	1665.56	1596.95	1657.28	1612.46	96	97	84-120	1	30
Butylbenzylphthalate	< 170	1665.56	1549.91	1657.28	1621.28	93	98	80-118	5	30
Di-n-butylphthalate	< 170	1665.56	1607.86	1657.28	1645.1	97	99	84-120	2	30
Caprolactam	< 170	1665.56	1217.9	1657.28	1307.93	73	79	73-119	7	30
Carbazole	< 33	1665.56	1576.9	1657.28	1619.69	95	98	78-117	3	30
4-Chloro-3-methylphenol	< 33	1665.56	1494.71	1657.28	1543.14	90	93	79-127	3	30
4-Chloroaniline	< 67	1665.56	878.83	1657.28	1005.69	53	61	10-100	13	30
bis(2-Chloroethoxy)methane	< 33	1665.56	1507.1	1657.28	1568.27	90	95	77-116	4	30
bis(2-Chloroethyl)ether	< 33	1665.56	1433.45	1657.28	1454.71	86	88	77-115	1	30
2-Chloronaphthalene	< 33	1665.56	1306.01	1657.28	1350.27	78	81	63-146	3	30
2-Chlorophenol	< 33	1665.56	1515.95	1657.28	1562.45	91	94	85-123	3	30
4-Chlorophenyl-phenylether	< 33	1665.56	1414.49	1657.28	1455.03	85	88	81-120	3	30
2,2'-oxybis(1-Chloropropane)	< 33	1665.56	1441.44	1657.28	1480.25	87	89	61-134	3	30
Chrysene	173.04	1665.56	1571.21	1657.28	1649.37	84	89	80-121	5	30
Dibenz(a,h)anthracene	7.03	1665.56	1571.96	1657.28	1681.93	94	101	81-123	7	30
Dibenzofuran	< 33	1665.56	1442.68	1657.28	1463.13	87	88	85-115	1	30
3,3'-Dichlorobenzidine	< 330	1665.56	841.04	1657.28	852.2	50	51	10-116	1	30
2,4-Dichlorophenol	< 33	1665.56	1508.34	1657.28	1522.89	91	92	86-125	1	30
Diethylphthalate	< 170	1665.56	1422.29	1657.28	1467.93	85	89	81-118	3	30
2,4-Dimethylphenol	< 33	1665.56	1464.92	1657.28	1495.76	88	90	83-120	2	30
Dimethylphthalate	< 170	1665.56	1377.58	1657.28	1428.83	83	86	82-113	4	30
4,6-Dinitro-2-methylphenol	< 500	1665.56	1346.75	1657.28	1371.99	81	83	46-134	2	30
2,4-Dinitrophenol	< 1,000	3331.11	1999.86	3314.55	2004.39	60	60	16-132	0	30
2,4-Dinitrotoluene	< 170	1665.56	1434.64	1657.28	1481.17	86	89	81-122	3	30
2,6-Dinitrotoluene	< 33	1665.56	1473.62	1657.28	1512.74	88	91	86-125	3	30
bis(2-Ethylhexyl)phthalate	< 170	1665.56	1574.08	1657.28	1616.7	95	98	81-121	3	30
Fluoranthene	32.95	1665.56	1554.84	1657.28	1588.44	91	94	81-117	2	30
Fluorene	31.97	1665.56	1509.76	1657.28	1551.11	89	92	86-118	3	30
Hexachlorobenzene	< 17	1665.56	1451.06	1657.28	1517.25	87	92	79-116	4	30
Hexachlorobutadiene	< 33	1665.56	1538.28	1657.28	1519.09	92	92	72-120	1	30
Hexachlorocyclopentadiene	< 500	3331.11	N.D.	3314.55	N.D.	0*	0*	64-137	0	30
Hexachloroethane	< 170	1665.56	1521.3	1657.28	1464.32	91	88	78-114	4	30
Indeno(1,2,3-cd)pyrene	8.49	1665.56	1505.78	1657.28	1612.42	90	97	81-118	7	30
Isophorone	< 33	1665.56	1529.48	1657.28	1559.02	92	94	77-118	2	30
2-Methylnaphthalene	9.91	1665.56	1493.53	1657.28	1563.96	89	94	83-109	5	30
2-Methylphenol	< 33	1665.56	1515.54	1657.28	1629.03	91	98	80-133	7	30
4-Methylphenol	< 33	1665.56	1423.17	1657.28	1497.53	85	90	73-125	5	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Naphthalene	< 17	1665.56	1516.9	1657.28	1566.97	91	95	82-112	3	30
2-Nitroaniline	< 33	1665.56	1475.61	1657.28	1611.89	89	97	84-126	9	30
3-Nitroaniline	< 170	1665.56	1501.46	1657.28	1553.01	90	94	66-119	3	30
4-Nitroaniline	< 170	1665.56	1124.71	1657.28	1160.15	68	70	44-110	3	30
Nitrobenzene	< 33	1665.56	1483.68	1657.28	1540.31	89	93	70-122	4	30
2-Nitrophenol	< 33	1665.56	1571.94	1657.28	1539.67	94	93	83-120	2	30
4-Nitrophenol	< 500	1665.56	1249.68	1657.28	1446.87	75	87	52-133	15	30
N-Nitroso-di-n-propylamine	< 33	1665.56	1401.16	1657.28	1464.57	84	88	67-121	4	30
N-Nitrosodiphenylamine	< 33	1665.56	1761.54	1657.28	1840.45	106	111	83-118	4	30
Di-n-octylphthalate	< 170	1665.56	1813.81	1657.28	1886.32	109	114	80-140	4	30
Pentachlorophenol	< 170	1665.56	982.42	1657.28	963.25	59	58	57-126	2	30
Phenanthrene	34.49	1665.56	1493.04	1657.28	1548.87	88	91	80-114	4	30
Phenol	< 33	1665.56	1418.41	1657.28	1481.4	85	89	73-122	4	30
Pyrene	134.2	1665.56	1529.65	1657.28	1576.31	84	87	81-114	3	30
2,4,5-Trichlorophenol	< 33	1665.56	1267.34	1657.28	1288.22	76*	78*	86-123	2	30
2,4,6-Trichlorophenol	< 33	1665.56	1236.29	1657.28	1181.54	74*	71*	81-123	5	30
Batch number: 16068SLD026	Sample number(s): 8262914-8262916,8262918-8262923,8262925-8262927 UNSPK: 8262914									
Acenaphthene	< 17	1643.66	1678.69	1644.74	1731.26	102	105	83-116	3	30
Acenaphthylene	< 17	1643.66	1738.44	1644.74	1823.52	106	111	83-119	5	30
Acetophenone	< 33	1643.66	1599.22	1644.74	1522.86	97	93	74-116	5	30
Anthracene	< 17	1643.66	1599.8	1644.74	1677.32	97	102	82-118	5	30
Atrazine	< 170	1643.66	1385.77	1644.74	1340.74	84	82	62-143	3	30
Benzaldehyde	< 170	1643.66	1092.68	1644.74	987.36	66	60	10-93	10	30
Benzo(a)anthracene	< 17	1643.66	1431.96	1644.74	1455.45	87	88	76-119	2	30
Benzo(a)pyrene	< 17	1643.66	1620.74	1644.74	1643.73	99	100	85-117	1	30
Benzo(b)fluoranthene	< 17	1643.66	1655.07	1644.74	1629.99	101	99	78-129	2	30
Benzo(g,h,i)perylene	< 17	1643.66	1784.84	1644.74	1742.31	109	106	77-118	2	30
Benzo(k)fluoranthene	< 17	1643.66	1632.35	1644.74	1748.62	99	106	79-120	7	30
1,1'-Biphenyl	< 33	1643.66	1481.84	1644.74	1502.64	90	91	76-111	1	30
4-Bromophenyl-phenylether	< 33	1643.66	1926.98	1644.74	1869.46	117	114	84-120	3	30
Butylbenzylphthalate	< 170	1643.66	1766.36	1644.74	1765.96	107	107	80-118	0	30
Di-n-butylphthalate	< 170	1643.66	1608.04	1644.74	1639.05	98	100	84-120	2	30
Caprolactam	< 170	1643.66	1460.81	1644.74	1637.77	89	100	73-119	11	30
Carbazole	< 33	1643.66	1545.94	1644.74	1549.86	94	94	78-117	0	30
4-Chloro-3-methylphenol	< 33	1643.66	1667.97	1644.74	1903.03	101	116	79-127	13	30
4-Chloroaniline	< 66	1643.66	846.03	1644.74	894.85	51	54	10-100	6	30
bis(2-Chloroethoxy)methane	< 33	1643.66	1586.19	1644.74	1662.08	97	101	77-116	5	30
bis(2-Chloroethyl)ether	< 33	1643.66	1573.21	1644.74	1436.39	96	87	77-115	9	30
2-Chloronaphthalene	< 33	1643.66	1777.81	1644.74	1818.52	108	111	63-146	2	30
2-Chlorophenol	< 33	1643.66	1702.09	1644.74	1613.53	104	98	85-123	5	30
4-Chlorophenyl-phenylether	< 33	1643.66	1625.22	1644.74	1695.05	99	103	81-120	4	30
2,2'-oxybis(1-Chloropropane)	< 33	1643.66	1560.66	1644.74	1410.71	95	86	61-134	10	30
Chrysene	< 17	1643.66	1528.29	1644.74	1550.58	93	94	80-121	1	30
Dibenz(a,h)anthracene	< 17	1643.66	1746.9	1644.74	1771.3	106	108	81-123	1	30
Dibenzofuran	< 33	1643.66	1654.92	1644.74	1705.64	101	104	85-115	3	30
3,3'-Dichlorobenzidine	< 330	1643.66	1380.81	1644.74	1428.52	84	87	10-116	3	30
2,4-Dichlorophenol	< 33	1643.66	1723.06	1644.74	1786.86	105	109	86-125	4	30
Diethylphthalate	< 170	1643.66	1668.58	1644.74	1771.22	102	108	81-118	6	30
2,4-Dimethylphenol	< 33	1643.66	1599.87	1644.74	1688.68	97	103	83-120	5	30
Dimethylphthalate	< 170	1643.66	1647.54	1644.74	1753.69	100	107	82-113	6	30
4,6-Dinitro-2-methylphenol	< 500	1643.66	1278.79	1644.74	1225.24	78	74	46-134	4	30
2,4-Dinitrophenol	< 990	3287.31	1676.83	3289.47	1943.31	51	59	16-132	15	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4-Dinitrotoluene	< 170	1643.66	1640.81	1644.74	1704.11	100	104	81-122	4	30
2,6-Dinitrotoluene	< 33	1643.66	1620.03	1644.74	1740.96	99	106	86-125	7	30
bis(2-Ethylhexyl)phthalate	< 170	1643.66	1633.35	1644.74	1653.61	99	101	81-121	1	30
Fluoranthene	4.07	1643.66	1437	1644.74	1457.61	87	88	81-117	1	30
Fluorene	< 17	1643.66	1617.63	1644.74	1719.85	98	105	86-118	6	30
Hexachlorobenzene	< 17	1643.66	1819.79	1644.74	1912.16	111	116	79-116	5	30
Hexachlorobutadiene	< 33	1643.66	1678.64	1644.74	1631.4	102	99	72-120	3	30
Hexachlorocyclopentadiene	< 500	3287.31	3702.11	3289.47	3705.58	113	113	64-137	0	30
Hexachloroethane	< 170	1643.66	1813.78	1644.74	1572.31	110	96	78-114	14	30
Indeno(1,2,3-cd)pyrene	< 17	1643.66	1687.26	1644.74	1799.7	103	109	81-118	6	30
Isophorone	< 33	1643.66	1598.84	1644.74	1735.46	97	106	77-118	8	30
2-Methylnaphthalene	< 17	1643.66	1594.42	1644.74	1728.49	97	105	83-109	8	30
2-Methylphenol	< 33	1643.66	1783	1644.74	1694.98	108	103	80-133	5	30
4-Methylphenol	< 33	1643.66	1687.91	1644.74	1601.49	103	97	73-125	5	30
Naphthalene	< 17	1643.66	1583.92	1644.74	1647.11	96	100	82-112	4	30
2-Nitroaniline	< 33	1643.66	1683.92	1644.74	1745.36	102	106	84-126	4	30
3-Nitroaniline	< 170	1643.66	1608.64	1644.74	1659.92	98	101	66-119	3	30
4-Nitroaniline	< 170	1643.66	1382.9	1644.74	1426.81	84	87	44-110	3	30
Nitrobenzene	< 33	1643.66	1672.26	1644.74	1722.9	102	105	70-122	3	30
2-Nitrophenol	< 33	1643.66	1636.37	1644.74	1679.04	100	102	83-120	3	30
4-Nitrophenol	< 500	1643.66	1533.81	1644.74	1678.66	93	102	52-133	9	30
N-Nitroso-di-n-propylamine	< 33	1643.66	1809.66	1644.74	1640.33	110	100	67-121	10	30
N-Nitrosodiphenylamine	< 33	1643.66	1583.22	1644.74	1579.51	96	96	83-118	0	30
Di-n-octylphthalate	< 170	1643.66	1746.75	1644.74	1796.15	106	109	80-140	3	30
Pentachlorophenol	< 170	1643.66	1621.94	1644.74	1522.58	99	93	57-126	6	30
Phenanthrene	< 17	1643.66	1527.93	1644.74	1558.41	93	95	80-114	2	30
Phenol	< 33	1643.66	1686.1	1644.74	1555.99	103	95	73-122	8	30
Pyrene	< 17	1643.66	1603.06	1644.74	1631.95	98	99	81-114	2	30
2,4,5-Trichlorophenol	< 33	1643.66	1782.54	1644.74	1757.31	108	107	86-123	1	30
2,4,6-Trichlorophenol	< 33	1643.66	1750.52	1644.74	1775.24	107	108	81-123	1	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 160620007A	Sample number(s): 8262907-8262916,8262918-8262921 UNSPK: 8262914									
4-Amino-2,6-Dinitrotoluene	< 120	1930	1635	1990	1591.81	85	80	42-138	3	50
2-Amino-4,6-Dinitrotoluene	< 120	1930	1694.13	1990	1611.69	88	81	43-141	5	50
3,5-Dinitroaniline	< 120	1920	1704.09	1980	1635.51	89	83	47-141	4	50
1,3-Dinitrobenzene	< 120	1920	1806.9	1980	1720.41	94	87	54-140	5	50
2,4-Dinitrotoluene	< 120	1930	1764.76	1990	1681.27	91	84	52-137	5	50
2,6-Dinitrotoluene	< 120	1930	1683.8	1990	1622.37	87	82	51-138	4	50
HMX	< 290	1930	1697.7	1990	1631.52	88	82	29-148	4	50
Nitrobenzene	< 290	1920	1978.03	1980	1882.5	103	95	64-138	5	50
Nitroglycerin	< 2,300	21300	16874.81	21900	16328.35	79	75	45-137	3	50
2-Nitrotoluene	< 120	1930	1727.69	1990	1656.44	90	83	57-135	4	50
3-Nitrotoluene	< 120	1930	1713.57	1990	1638.19	89	82	57-135	4	50
4-Nitrotoluene	< 120	1920	1712.7	1980	1625.92	89	82	53-133	5	50
PETN	< 2,300	21200	17180.97	21900	16686.11	81	76	36-143	3	50
RDX	< 120	1920	1858.73	1980	1792.7	97	91	45-145	4	50
Tetryl	< 290	1920	1316.48	1980	1083.3	69	55	38-152	19	50
1,3,5-Trinitrobenzene	< 120	1930	1709.48	1990	1569.76	89	79	48-141	9	50
2,4,6-Trinitrotoluene	< 120	1920	1703.77	1980	1615.91	89	82	47-140	5	50
Batch number: 160620008A	Sample number(s): 8262922-8262923,8262925-8262927 UNSPK: P262937									
4-Amino-2,6-Dinitrotoluene	< 120	1940	1757.01	1990	1933.15	91	97	42-138	10	50

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2-Amino-4,6-Dinitrotoluene	< 120	1940	1809.55	1990	2004.39	93	101	43-141	10	50
3,5-Dinitroaniline	< 120	1940	1828.76	1980	2021.17	94	102	47-141	10	50
1,3-Dinitrobenzene	< 120	1940	1913.85	1980	2078.17	99	105	54-140	8	50
2,4-Dinitrotoluene	< 120	1940	1865.93	1980	2035.15	96	103	52-137	9	50
2,6-Dinitrotoluene	< 120	1950	1804.52	1990	1967.24	93	99	51-138	9	50
HMX	< 290	1940	1857.65	1980	2111.3	96	107	29-148	13	50
Nitrobenzene	< 290	1940	2082.51	1980	2229.26	107	113	64-138	7	50
Nitroglycerin	< 2,300	21400	18185.07	21900	20033.06	85	91	45-137	10	50
2-Nitrotoluene	< 120	1940	1803.14	1980	1957.48	93	99	57-135	8	50
3-Nitrotoluene	< 120	1940	1777.59	1990	1923.55	92	97	57-135	8	50
4-Nitrotoluene	< 120	1940	1784.21	1980	1926.74	92	97	53-133	8	50
PETN	< 2,300	21400	18561.08	21800	20466.82	87	94	36-143	10	50
RDX	< 120	1940	2029.64	1980	2233.94	105	113	45-145	10	50
Tetryl	< 290	1940	1215.57	1980	1666.56	63	84	38-152	31	50
1,3,5-Trinitrobenzene	< 120	1950	1776.43	1990	2035.01	91	102	48-141	14	50
2,4,6-Trinitrotoluene	< 120	1940	1823.73	1980	2042.74	94	103	47-140	11	50
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160640033A	Sample number(s): 8262907-8262916,8262918-8262922 UNSPK: 8262914									
PCB-1016	< 17	166	154.82	167	148.34	93	89	76-121	4	50
PCB-1260	< 17	166	194.72	168	182.27	117	108	79-130	7	50
Batch number: 160660011A	Sample number(s): 8262923,8262925-8262927 UNSPK: P262937									
PCB-1016	< 17	167	162.19	167	158.22	97	95	76-121	2	50
PCB-1260	< 17	168	203.83	167	205.35	121	123	79-130	1	50
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160670008A	Sample number(s): 8262907-8262916 UNSPK: 8262914									
Ethylene glycol	< 10	104	92.71	104	108.53	89	104	76-122	16	20
Batch number: 160670009A	Sample number(s): 8262918-8262923,8262925-8262927 UNSPK: P262937									
Ethylene glycol	< 10	104	89.51	104	97.07	86	93	76-122	8	20
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160620637001	Sample number(s): 8262907-8262923 UNSPK: 8262914									
Aluminum	5001.89	196.08	4606.82	196.08	4496.86	-201 (2)	-258 (2)	75-125	2	20
Barium	14.17	196.08	211.84	196.08	212.12	101	101	75-125	0	20
Calcium	186.49	392.16	681.29	392.16	697.06	126*	130*	75-125	2	20
Cobalt	1.25	49.02	50.02	49.02	49.53	99	98	75-125	1	20
Copper	55.21	24.51	32.64	24.51	33.79	-92*	-87*	75-125	3	20
Iron	4404.85	98.04	4773.12	98.04	4833.77	376 (2)	437 (2)	75-125	1	20
Lead	2.16	14.71	16.84	14.71	17.43	100	104	75-125	3	20
Magnesium	283.52	196.08	505.19	196.08	523.53	113	122	75-125	4	20
Manganese	122.01	49.02	175.24	49.02	173.2	109	104	75-125	1	20
Nickel	1.89	49.02	51.21	49.02	50.85	101	100	75-125	1	20
Potassium	233.65	980.39	1281.21	980.39	1273.77	107	106	75-125	1	20
Sodium	48.46	980.39	1062.93	980.39	1049.4	103	102	75-125	1	20
Titanium	255.17	98.04	345.61	98.04	360.84	92	108	75-125	4	20
Vanadium	8.20	49.02	59.81	49.02	58.67	105	103	75-125	2	20
Zinc	8.03	49.02	56.02	49.02	57.04	98	100	75-125	2	20
Batch number: 160620637001A	Sample number(s): 8262907-8262923 UNSPK: 8262914									

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Antimony	< 0.392	1.18	1.06	1.18	1.14	90	96	75-125	7	20
Arsenic	0.402	1.96	2.22	1.96	2.14	93	89	75-125	4	20
Beryllium	0.168	0.784	0.988	0.784	0.901	105	93	75-125	9	20
Cadmium	< 0.196	0.980	1.03	0.980	0.946	105	96	75-125	9	20
Chromium	5.18	9.80	15.63	9.80	13.98	107	90	75-125	11	20
Silver	< 0.196	9.80	9.47	9.80	9.61	97	98	75-125	1	20
Thallium	0.0431	0.392	0.423	0.392	0.408	97	93	75-125	4	20
Batch number: 160620637001B	Sample number(s): 8262907-8262923 UNSPK: 8262914									
Selenium	< 0.784	1.96	2.12	1.96	2.10	108	107	75-125	1	20
Batch number: 160620638001	Sample number(s): 8262907-8262923 UNSPK: 8262914									
Mercury	< 0.188	0.159	0.150	0.163	0.145	94	89	80-120	4	20
Batch number: 160630637002	Sample number(s): 8262925-8262927 UNSPK: P262937									
Aluminum	4292.78	169.49	6374.95	196.08	6570.94	1228 (2)	1162 (2)	75-125	3	20
Barium	18.69	169.49	189.49	196.08	212.4	101	99	75-125	11	20
Calcium	199.38	338.98	641.77	392.16	715	131*	131*	75-125	11	20
Cobalt	1.70	42.37	43.07	49.02	49.21	98	97	75-125	13	20
Copper	3.49	21.19	24.11	24.51	27.96	97	100	75-125	15	20
Iron	5430.03	84.75	5311.81	98.04	5613.16	-140 (2)	187 (2)	75-125	6	20
Lead	2.42	12.71	14.37	14.71	16.74	94	97	75-125	15	20
Magnesium	494.42	169.49	744.46	196.08	786.95	148*	149*	75-125	6	20
Manganese	106.48	42.37	144.92	49.02	150.31	91	89	75-125	4	20
Nickel	1.82	42.37	44.6	49.02	51.13	101	101	75-125	14	20
Potassium	449.12	847.46	1377.69	980.39	1537.72	110	111	75-125	11	20
Sodium	27.94	847.46	901.71	980.39	1032.94	103	103	75-125	14	20
Titanium	228.34	84.75	352.97	98.04	382.99	147*	158*	75-125	8	20
Vanadium	9.66	42.37	53.94	49.02	60.33	105	103	75-125	11	20
Zinc	10.72	42.37	51.81	49.02	58.81	97	98	75-125	13	20
Batch number: 160630637002A	Sample number(s): 8262925-8262927 UNSPK: P262937									
Antimony	< 0.331	1.02	0.783	1.18	0.972	77	83	75-125	22*	20
Arsenic	0.669	1.69	2.35	1.96	2.90	99	114	75-125	21*	20
Beryllium	0.173	0.678	0.875	0.784	0.953	104	99	75-125	9	20
Cadmium	< 0.165	0.847	0.911	0.980	1.05	108	107	75-125	14	20
Chromium	5.68	8.47	14.06	9.80	17.72	99	123	75-125	23*	20
Silver	< 0.165	8.47	8.79	9.80	10.5	104	107	75-125	18	20
Thallium	0.0555	0.339	0.399	0.392	0.466	101	105	75-125	16	20
Batch number: 160630637002B	Sample number(s): 8262925-8262927 UNSPK: P262937									
Selenium	< 0.661	1.69	1.79	1.96	2.05	106	104	75-125	13	20
Batch number: 160630638002	Sample number(s): 8262925-8262927 UNSPK: P262937									
Mercury	< 0.193	0.167	0.140	0.159	0.147	84	92	80-120	5	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 160620637001	Sample number(s): 8262907-8262923 BKG: 8262914			
Aluminum	5001.89	3416.56	38*	20
Barium	14.17	14.18	0	20
Calcium	186.49	164.03	13 (1)	20
Cobalt	1.25	1.16	7 (1)	20
Copper	55.21	9.10	143* (1)	20
Iron	4404.85	4181.15	5	20
Lead	2.16	2.23	3 (1)	20
Magnesium	283.52	236.9	18	20
Manganese	122.01	114.41	6	20
Nickel	1.89	1.36	33* (1)	20
Potassium	233.65	208.19	12 (1)	20
Sodium	48.46	40.26	18 (1)	20
Titanium	255.17	220.03	15	20
Vanadium	8.20	7.26	12	20
Zinc	8.03	7.92	1 (1)	20
Batch number: 160620637001A	Sample number(s): 8262907-8262923 BKG: 8262914			
Antimony	< 0.392	< 0.392	0 (1)	20
Arsenic	0.402	0.367	9 (1)	20
Beryllium	0.168	0.141	18 (1)	20
Cadmium	< 0.196	< 0.196	0 (1)	20
Chromium	5.18	5.30	2	20
Silver	< 0.196	< 0.196	0 (1)	20
Thallium	0.0431	< 0.196	200* (1)	20
Batch number: 160620637001B	Sample number(s): 8262907-8262923 BKG: 8262914			
Selenium	< 0.784	< 0.784	0 (1)	20
Batch number: 160620638001	Sample number(s): 8262907-8262923 BKG: 8262914			
Mercury	< 0.188	< 0.198	0 (1)	20
Batch number: 160630637002	Sample number(s): 8262925-8262927 BKG: P262937			
Aluminum	4292.78	2861.29	40*	20
Barium	18.69	14.06	28*	20
Calcium	199.38	171.82	15	20
Cobalt	1.70	1.27	29* (1)	20
Copper	3.49	7.44	72* (1)	20
Iron	5430.03	3982.94	31*	20
Lead	2.42	3.02	22* (1)	20
Magnesium	494.42	379.47	26*	20
Manganese	106.48	75.1	35*	20
Nickel	1.82	1.57	15 (1)	20
Potassium	449.12	338.78	28* (1)	20
Sodium	27.94	19.25	37* (1)	20
Titanium	228.34	176.28	26*	20
Vanadium	9.66	6.54	39*	20
Zinc	10.72	11.7	9 (1)	20
Batch number: 160630637002A	Sample number(s): 8262925-8262927 BKG: P262937			
Antimony	< 0.331	< 0.290	0 (1)	20
Arsenic	0.669	0.442	41* (1)	20
Beryllium	0.173	0.120	37* (1)	20
Cadmium	< 0.165	< 0.145	0 (1)	20
Chromium	5.68	4.89	15	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Silver	< 0.165	< 0.145	0 (1)	20
Thallium	0.0555	0.0339	48* (1)	20
Batch number: 160630637002B	Sample number(s): 8262925-8262927 BKG: P262937			
Selenium	< 0.661	< 0.580	0 (1)	20
Batch number: 160630638002	Sample number(s): 8262925-8262927 BKG: P262937			
Mercury	< 0.193	0.342	200* (1)	20
	%	%		
Batch number: 16063820005A	Sample number(s): 8262907-8262917 BKG: 8262914, P262914			
Moisture	2.08	2.21	6* (1)	5
Moisture	2.08	2.21	6* (1)	5
Moisture Duplicate	2.08	2.21	6* (1)	5
Batch number: 16063820005B	Sample number(s): 8262918-8262923,8262925-8262927 BKG: 8262927			
Moisture	14.33	14.68	2	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Soil Master
Batch number: A160681AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262909	105	109	97	95
Blank	106	106	97	92
LCS	101	100	100	99
LCSD	101	100	101	100
MS	101	106	117	81
MSD	116	134	135	66
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160691AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262907	101	106	102	92
8262910	101	104	97	93
8262911	101	102	106	82
8262912	101	108	99	91
8262913	101	108	96	93
8262914	102	108	98	93
8262915	99	102	100	99
8262916	96	104	100	99
8262918	98	103	110	84
8262919	96	100	121	75
8262920	100	106	99	93
8262921	100	105	97	92
8262922	101	106	97	93
8262923	100	104	102	88

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635589
Reported: 03/17/2016 15:54

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262924	99	106	98	93
Blank	101	106	98	93
LCS	97	97	100	98
LCSD	96	100	101	98
MS	99	102	100	99
MSD	96	104	100	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160692AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262925	107	102	131	72
Blank	101	101	98	92
LCS	98	99	100	98
MS	98	103	100	98
MSD	98	102	100	97
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160702AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262927	105	106	95	90
Blank	106	107	96	92
LCS	100	106	100	101
LCSD	100	103	100	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160621AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262926	80	72	74	76
Blank	107	106	106	97
LCS	103	101	102	103
LCSD	122	120	123	133*
MS	80	78	77	72
MSD	91	86	89	84
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160633AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262908	86	83	78	76
Blank	112	111	105	95
LCS	115	111	108	101
LCSD	111	111	103	99
MS	75	76	73	73
MSD	76	76	70	72

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 16064SLI026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8262907	81	82	77	80	81	79
8262908	74	77	64	70	75	76
8262909	85	86	81	84	87	89
8262910	92	93	82	87	90	93
8262911	85	84	70	83	80	86
8262912	75	76	73	77	78	79
8262913	82	82	79	83	84	85
Blank	90	91	89	91	92	92
LCS	101	100	95	97	98	95
MS	87	88	55	87	86	85
MSD	92	92	55	90	87	88
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16068SLD026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8262914	98	92	121	93	98	93
8262915	106	101	121	95	98	98
8262916	99	94	128	101	102	99
8262918	95	92	93	92	102	88
8262919	103	97	114	99	108	100
8262920	89	88	115	93	94	89
8262921	97	94	122	96	101	94
8262922	95	93	119	93	93	90
8262923	104	97	105	111	114	100
8262925	101	95	109	100	106	104
8262926	96	93	100	102	101	96
8262927	89	86	117	94	100	90
Blank	96	92	129	96	98	94
LCS	108	104	123	99	98	101
MS	106	101	121	95	98	98
MSD	99	94	128	101	102	99
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: Nitroaromatics/Amines 8330B(s)
Batch number: 160620007A

	3,4-Dinitrotoluene
8262907	113
8262908	122
8262909	91
8262910	93
8262911	94
8262912	92
8262913	98
8262914	102
8262915	98
8262916	93

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

	3,4-Dinitrotoluene
8262918	84
8262919	98
8262920	101
8262921	102
Blank	104
LCS	108
LCSD	101
MS	98
MSD	93
Limits:	62-133

Analysis Name: Nitroaromatics/Amines 8330B(s)
Batch number: 160620008A

	3,4-Dinitrotoluene
8262922	101
8262923	84
8262925	101
8262926	98
8262927	103
Blank	104
LCS	108
LCSD	104
MS	101
MSD	106
Limits:	62-133

Analysis Name: PCBs 8082A
Batch number: 160640033A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8262907	130	143
8262908	116	140
8262909	115	105
8262910	117	102
8262911	108	301*
8262912	133	142
8262913	101	95
8262914	117	110
8262915	114	115
8262916	109	107
8262918	157*	475*
8262919	101	127
8262920	104	106
8262921	111	107
8262922	108	102
Blank	115	115
LCS	111	113
MS	114	115
MSD	109	107
Limits:	53-140	45-143

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635589

Analysis Name: PCBs 8082A
Batch number: 160660011A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8262923	108	98
8262925	192*	182*
8262926	178*	331*
8262927	102	100
Blank	113	107
LCS	117	111
MS	112	108
MSD	118	111
Limits:	53-140	45-143

Analysis Name: Glycols in Soil
Batch number: 160670008A

	Tetramethylene glycol
8262907	50
8262908	49
8262909	52
8262910	52
8262911	50
8262912	47
8262913	48
8262914	55
8262915	95
8262916	113
Blank	61
LCS	116
MS	95
MSD	113
Limits:	36-143

Analysis Name: Glycols in Soil
Batch number: 160670009A

	Tetramethylene glycol
8262918	54
8262919	56
8262920	51
8262921	52
8262922	46
8262923	51
8262925	48
8262926	47
8262927	45
Blank	55
LCS	109
MS	108
MSD	100
Limits:	36-143

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635589 Sample # 8262907 - 27 Pi of 4

COC # 491598

Client Information

Client: 10302 Norfolk Southern via Amec Foster Wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard/Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☑ No ☐

For Lab Use Only

FSC:

SCR#:

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Soil ☒	Ground	Potable	Surface	NPDES	Water	Other:	Total # of Containers	VOCs in Soil by 8260 Kit	8260 SIM Naphthalene	8270 SIM Methylnaphthalene	EXPOSNES by 8270	SOLID Ethylene Glycol	VOCs in Soil by 8260 Full Scan								Remarks
														O	4R	4R	4R	4R	O								
SB0-02-0-2-022616	2-26-16	14:22	✓		✓								6	✓	✓	✓	✓										VOAs in Cooler C21532
SB0-02-2-4-022616	2-26-16	14:45	✓		✓								6	✓	✓	✓	✓										SVOCs/metals in Cooler C23999
SB0-02-6-8-022616	2-26-16	15:00	✓		✓								6	✓	✓	✓	✓										
SB0-02-12-14-022616	2-26-16	15:20	✓		✓								6	✓	✓	✓	✓										
SB0-03-0-2-022616	2-26-16	15:35	✓		✓								6	✓	✓	✓	✓										
SB0-03-2-4-022616	2-26-16	16:00	✓		✓								6	✓	✓	✓	✓										
SB0-03-6-8-022616	2-26-16	16:15	✓		✓								6	✓	✓	✓	✓										
SB0-03-12-14-022616	2-26-16	16:30	✓		✓								6	✓	✓	✓	✓										
SB0-03-12-14-022616 MS	2-26-16	16:30	✓		✓								6	✓	✓	✓	✓										
SB0-03-12-14-022616 MSD	2-26-16	16:30	✓		✓								6	✓	✓	✓	✓										

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
James T. Parker	2-26-16	19:37			
			Kristin Nagel	2/27/16	0952

EDD Required? Yes No

If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS ____ FedEx X Other ____

Temperature upon receipt 0.5 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 1115

Environmental Analysis Request/Chain of Custody

eurofins

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Acct. # 10302 Group # 1635558 Sample # 8262907-27

P12 of 4

COC # 491597

Client Information

Client: 10302 Norfolk Southern via Amec Foster Wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard / Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☑ No ☐

Matrix

Sediment ☐ Soil ☒ Water: Ground ☐ Potable ☐ Surface ☐ NPDES ☐ Other: ____

Analysis Requested / Preservation Codes

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Sample Identification (* SBO KAK/BSS per Judy Hartness)	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs 8260C Kit	RCRA 8082A Pesticides	RCRA metals & mercury	Explosives 8330	BOD/CB Ethylene	Volatiles 8260C	Trip Blank	Remarks
									0	4C	4C	4C	0			
* SB-09-0-2-022616	2-26-16	07:40	✓		✓			6	✓	✓	✓	✓				SVOCs + METALS C23999
* SB-09-2-4-022616	2-26-16	08:48	✓		✓			6	✓	✓	✓	✓				VOAs in Cooler # C27532
SB-09-6-8-022616	2-26-16	09:30	✓		✓			6	✓	✓	✓	✓				
SB-09-12-14-022616	2-26-16	10:20	✓		✓			6	✓	✓	✓	✓				
SB-Dup-7-022616	2-26-16	12:00	✓		✓			6	✓	✓	✓	✓				
SB-Dup-4-022616	2-26-16	12:00	✓		✓			6	✓	✓	✓	✓				SVOCs/metals in C#17648
Trip Blank-01-022616	2-26-16	13:06	✓			✓								✓		
SB-01-0-2-022616	2-26-16	11:30	✓		✓			6	✓	✓	✓	✓				VOAs in Cooler #C24815
SB-01-2-4-022616	2-26-16	11:40	✓		✓			6	✓	✓	✓	✓				
SB-01-6-8-022616	2-26-16	12:01	✓		✓			6	✓	✓	✓	✓				

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Terrell Parker	2-26-16	19:37			
			Russ Abel	2/27/16	0950

EDD Required? Yes No
If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx ✓ Other ____

Temperature upon receipt 5.5 °C

1635589

Katherine Klinefelter

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Thursday, March 17, 2016 2:01 PM
To: Katherine Klinefelter
Cc: Jolly, John; Mayila, Ferdinand K
Subject: FW: 1635589-Former Cohn Property/Columbus, GA-02/27/2016 9:50:00 Acknowledgement
Attachments: 1635589c.pdf; 1635589d.pdf; EAcknow_1635589.xls

8262918	SBO-09-0-2-022616 Grab Soil	02/26/16 07:40
8262919	SBO-09-2-4-022616 Grab Soil	02/26/16 08:48

Kathy,

As we discussed earlier today via phone, for group# 1635589:
Please change the sample name from "SB-09-0-2-022616" to "SBO-09-0-2-022616"
Please change the sample name from "SB-09-2-4-022616" to "SBO-09-2-4-022616"

Regards,

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: USLAN-PXAdmin [mailto:USLAN-PXAdmin@lancasterlabs.com]
Sent: Tuesday, March 01, 2016 12:26 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>
Subject: 1635589-Former Cohn Property/Columbus, GA-02/27/2016 9:50:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

This is an automated message from an unmonitored address. Please do not reply to this address.

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1635589

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Sample Administration Receipt Documentation Log

Doc Log ID: 137695

Group Number(s): 1635589

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	02/27/2016 9:50
Number of Packages:	4	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Trip Blank Type(s): sodium bisulfate

Unpacked by Krista Abel (3058) at 12:01 on 02/27/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.2	DT	Wet	Y	Bagged	N
2	DT131	1.1	DT	Wet	Y	Bagged	N
3	DT131	1.0	DT	Wet	Y	Bagged	N
4	DT131	0.5	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
SB-9-2-4-022616	5	6	Rec'd 1 vial empty.
SB-DUP-5-022616	5	6	Rec'd 1 vial empty.

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
SBO-06-2-4-022616	2/26/2016 17:30	On bottles only.

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: March 17, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 02/27/2016
Group Number: 1635590
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
SBO-01-12-14-022616 Grab Soil	8262928
SBO-05-0-2-022616 Grab Soil	8262929
SBO-05-6-8-022616 Grab Soil	8262930
SBO-05-12-14-022616 Grab Soil	8262931
SBO-DUP-6-022616 Grab Soil	8262932
SBO-DUP-5-022616 Grab Soil	8262933
SBO-06-0-2-022616 Grab Soil	8262934
SBO-06-2-4-022616 Grab Soil	8262935
SBO-06-6-8-022616 Grab Soil	8262936
SBO-06-12-14-022616 Grab Soil	8262937
SBO-06-12-14-022616MS Grab Soil	8262938
SBO-06-12-14-022616MSD Grab Soil	8262939
SBO-06-12-14-022616DUP Grab Soil	8262940
Trip_Blank-02-022616 Sodium Bisulfate	8262941

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Ferdinand Mayila
Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1635590

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8262929

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8262933

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample #s: 8262930

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.
The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for the initial analysis.

Internal Standard - Initial Analysis	% Recovery
Fluorobenzene	-90
Chlorobenzene-d5	-90
1,4-Dichlorobenzene-d4	-93
tert-Butyl Alcohol-d10	-80

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

Sample #s: 8262935

Reporting limits were raised due to interference from the sample matrix.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8262934

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
Chlorobenzene-d5	-51
1,4-Dichlorobenzene-d4	-78
Internal Standard - Re-analysis	**% Recovery**
1,4-Dichlorobenzene-d4	-60

Batch #: A160692AA (Sample number(s): 8262928, 8262931-8262932, 8262934, 8262936-8262939, 8262941 UNSPK: 8262937)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Cyclohexane

Batch #: R160621AA (Sample number(s): 8262929, 8262935 UNSPK: P260957)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCSD

SW-846 8270D, GC/MS Semivolatiles

Sample #s: 8262929, 8262933, 8262934, 8262935

Reporting limits were raised due to interference from the sample matrix.

Batch #: 16068SLF026 (Sample number(s): 8262929-8262939 UNSPK: 8262937)

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: 4-Chloroaniline

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) Blank

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Batch #: 160660011A (Sample number(s): 8262928-8262932, 8262934-8262939 UNSPK: 8262937)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8262929, 8262935

Batch #: 160680020A (Sample number(s): 8262933 UNSPK: P268010)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: PCB-1016

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8262933, MS, MSD

SW-846 6010C, Metals

Batch #: 160630637002 (Sample number(s): 8262928-8262940 UNSPK: 8262937 BKG: 8262937)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Aluminum, Calcium, Iron, Magnesium, Titanium

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Aluminum, Iron, Magnesium, Potassium, Sodium, Barium, Cobalt, Copper, Lead, Manganese, Titanium, Vanadium

SW-846 6020A, Metals

Sample #s: 8262929, 8262934

Reporting limits were raised for metals due to interference from the sample matrix.

Batch #: 160630637002A (Sample number(s): 8262928-8262940 UNSPK: 8262937 BKG: 8262937)

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Antimony, Arsenic, Chromium

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Arsenic, Beryllium, Thallium

SW-846 7471B, Metals

Batch #: 160630638002 (Sample number(s): 8262928-8262940 UNSPK: 8262937 BKG: 8262937)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Mercury

Sample Description: SBO-01-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262928
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:25 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 20	20	7	0.96
11995	Benzene	71-43-2	< 5	5	0.5	0.96
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.96
11995	Bromoform	75-25-2	< 5	5	1	0.96
11995	Bromomethane	74-83-9	< 5	5	2	0.96
11995	2-Butanone	78-93-3	< 10	10	4	0.96
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.96
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.96
11995	Chlorobenzene	108-90-7	< 5	5	1	0.96
11995	Chloroethane	75-00-3	< 5	5	2	0.96
11995	Chloroform	67-66-3	< 5	5	1	0.96
11995	Chloromethane	74-87-3	< 5	5	2	0.96
11995	Cyclohexane	110-82-7	< 5	5	1	0.96
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.96
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.96
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.96
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.96
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.96
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.96
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.96
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.96
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.96
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.96
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.96
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.96
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.96
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.96
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.96
11995	Ethylbenzene	100-41-4	< 5	5	1	0.96
11995	Freon 113	76-13-1	< 10	10	2	0.96
11995	2-Hexanone	591-78-6	< 10	10	3	0.96
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.96
11995	Methyl Acetate	79-20-9	< 5	5	2	0.96
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.96
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.96
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.96
11995	Methylene Chloride	75-09-2	< 5	5	2	0.96
11995	Styrene	100-42-5	< 5	5	1	0.96
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.96
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.96
11995	Toluene	108-88-3	< 5	5	1	0.96
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.96
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.96
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.96
11995	Trichloroethene	79-01-6	< 5	5	1	0.96
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.96
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.96
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.96
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	3	1

*=This limit was used in the evaluation of the final result

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	3	1
10726	Acetophenone	98-86-2	< 35	35	17	1
10726	Anthracene	120-12-7	< 18	18	3	1
10726	Atrazine	1912-24-9	< 170	170	35	1
10726	Benzaldehyde	100-52-7	< 170	170	70	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	3	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	3	1
10726	1,1'-Biphenyl	92-52-4	< 35	35	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 35	35	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	70	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	70	1
10726	Caprolactam	105-60-2	< 170	170	35	1
10726	Carbazole	86-74-8	< 35	35	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 35	35	17	1
10726	4-Chloroaniline	106-47-8	< 70	70	35	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 35	35	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 35	35	17	1
10726	2-Chloronaphthalene	91-58-7	< 35	35	7	1
10726	2-Chlorophenol	95-57-8	< 35	35	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 35	35	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 35	35	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	3	1
10726	Dibenzofuran	132-64-9	< 35	35	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 350	350	100	1
10726	2,4-Dichlorophenol	120-83-2	< 35	35	17	1
10726	Diethylphthalate	84-66-2	< 170	170	70	1
10726	2,4-Dimethylphenol	105-67-9	< 35	35	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	70	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 520	520	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	310	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	70	1
10726	2,6-Dinitrotoluene	606-20-2	< 35	35	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	70	1
10726	Fluoranthene	206-44-0	< 18	18	3	1
10726	Fluorene	86-73-7	< 18	18	3	1
10726	Hexachlorobenzene	118-74-1	< 18	18	3	1
10726	Hexachlorobutadiene	87-68-3	< 35	35	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 520	520	170	1
10726	Hexachloroethane	67-72-1	< 170	170	35	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	3	1
10726	Isophorone	78-59-1	< 35	35	17	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	3	1
10726	2-Methylphenol	95-48-7	< 35	35	17	1

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 35	35	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	3	1
10726	2-Nitroaniline	88-74-4	< 35	35	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	70	1
10726	4-Nitroaniline	100-01-6	< 170	170	70	1
10726	Nitrobenzene	98-95-3	< 35	35	17	1
10726	2-Nitrophenol	88-75-5	< 35	35	17	1
10726	4-Nitrophenol	100-02-7	< 520	520	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 35	35	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 35	35	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	70	1
10726	Pentachlorophenol	87-86-5	< 180	180	35	1
10726	Phenanthrene	85-01-8	< 18	18	3	1
10726	Phenol	108-95-2	< 35	35	17	1
10726	Pyrene	129-00-0	< 18	18	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 35	35	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 35	35	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	42	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	42	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	42	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	42	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	42	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	42	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	840	1
13413	2-Nitrotoluene	88-72-2	< 130	130	42	1
13413	3-Nitrotoluene	99-08-1	< 130	130	42	1
13413	4-Nitrotoluene	99-99-0	< 130	130	42	1
13413	PETN	78-11-5	< 2,500	2,500	840	1
13413	RDX	121-82-4	< 130	130	42	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	42	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	42	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.8	1
10885	PCB-1221	11104-28-2	< 18	18	4.9	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-01-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262928
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CPS11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 18	18	8.4	1
10885	PCB-1242	53469-21-9	< 18	18	3.5	1
10885	PCB-1248	12672-29-6	< 18	18	3.5	1
10885	PCB-1254	11097-69-1	< 18	18	3.5	1
10885	PCB-1260	11096-82-5	< 18	18	5.2	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.3	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,220	38.5	7.38	1
06946	Barium	7440-39-3	17.9	0.963	0.116	1
01650	Calcium	7440-70-2	221	38.5	3.21	1
06952	Cobalt	7440-48-4	1.77	0.963	0.0780	1
06953	Copper	7440-50-8	< 1.93	1.93	0.308	1
01654	Iron	7439-89-6	4,910	38.5	3.21	1
06955	Lead	7439-92-1	< 2.89	2.89	0.395	1
01657	Magnesium	7439-95-4	514	19.3	1.61	1
06958	Manganese	7439-96-5	111	0.963	0.116	1
06961	Nickel	7440-02-0	< 1.93	1.93	0.221	1
01662	Potassium	7440-09-7	429	96.3	16.2	1
01667	Sodium	7440-23-5	< 193	193	16.1	1
06970	Titanium	7440-32-6	267	1.93	0.356	1
06971	Vanadium	7440-62-2	9.87	0.963	0.221	1
06972	Zinc	7440-66-6	7.94	3.85	0.742	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.385	0.385	0.0636	2
06125	Arsenic	7440-38-2	< 0.770	0.770	0.144	2
06127	Beryllium	7440-41-7	< 0.193	0.193	0.0137	2
06128	Cadmium	7440-43-9	< 0.193	0.193	0.0443	2
06131	Chromium	7440-47-3	5.22	0.770	0.0963	2
06141	Selenium	7782-49-2	< 0.770	0.770	0.0963	2
06142	Silver	7440-22-4	< 0.193	0.193	0.0193	2
06145	Thallium	7440-28-0	< 0.193	0.193	0.0289	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.204	0.204	0.0102	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

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General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016	22:13	Christopher G Torres	0.96
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	12:25	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	12:25	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	12:25	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLD026	03/11/2016	02:15	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLD026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	14:17	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	05:46	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	11:26	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	15:55	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	09:17	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:53	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:53	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:53	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016	06:53	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:51	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:53	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	06:53	Tara L Snyder	2

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Former Cohn Property / Columbus, GA

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:53	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:06	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262929
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,600	1,600	560	65.84
11995	Benzene	71-43-2	< 400	400	40	65.84
11995	Bromodichloromethane	75-27-4	< 400	400	81	65.84
11995	Bromoform	75-25-2	< 400	400	81	65.84
11995	Bromomethane	74-83-9	< 400	400	160	65.84
11995	2-Butanone	78-93-3	< 810	810	320	65.84
11995	Carbon Disulfide	75-15-0	< 400	400	81	65.84
11995	Carbon Tetrachloride	56-23-5	< 400	400	81	65.84
11995	Chlorobenzene	108-90-7	< 400	400	81	65.84
11995	Chloroethane	75-00-3	< 400	400	160	65.84
11995	Chloroform	67-66-3	< 400	400	81	65.84
11995	Chloromethane	74-87-3	< 400	400	160	65.84
11995	Cyclohexane	110-82-7	< 400	400	81	65.84
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 400	400	160	65.84
11995	Dibromochloromethane	124-48-1	< 400	400	81	65.84
11995	1,2-Dibromoethane	106-93-4	< 400	400	81	65.84
11995	1,2-Dichlorobenzene	95-50-1	< 400	400	81	65.84
11995	1,3-Dichlorobenzene	541-73-1	< 400	400	81	65.84
11995	1,4-Dichlorobenzene	106-46-7	< 400	400	81	65.84
11995	Dichlorodifluoromethane	75-71-8	< 400	400	160	65.84
11995	1,1-Dichloroethane	75-34-3	< 400	400	81	65.84
11995	1,2-Dichloroethane	107-06-2	< 400	400	81	65.84
11995	1,1-Dichloroethene	75-35-4	< 400	400	81	65.84
11995	cis-1,2-Dichloroethene	156-59-2	< 400	400	81	65.84
11995	trans-1,2-Dichloroethene	156-60-5	< 400	400	81	65.84
11995	1,2-Dichloropropane	78-87-5	< 400	400	81	65.84
11995	cis-1,3-Dichloropropene	10061-01-5	< 400	400	81	65.84
11995	trans-1,3-Dichloropropene	10061-02-6	< 400	400	81	65.84
11995	Ethylbenzene	100-41-4	3,100	400	81	65.84
11995	Freon 113	76-13-1	< 810	810	160	65.84
11995	2-Hexanone	591-78-6	< 810	810	240	65.84
11995	Isopropylbenzene	98-82-8	< 400	400	81	65.84
11995	Methyl Acetate	79-20-9	< 400	400	160	65.84
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 400	400	40	65.84
11995	4-Methyl-2-pentanone	108-10-1	< 810	810	240	65.84
11995	Methylcyclohexane	108-87-2	< 400	400	81	65.84
11995	Methylene Chloride	75-09-2	< 400	400	160	65.84
11995	Styrene	100-42-5	510	400	81	65.84
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 400	400	81	65.84
11995	Tetrachloroethene	127-18-4	< 400	400	81	65.84
11995	Toluene	108-88-3	< 400	400	81	65.84
11995	1,2,4-Trichlorobenzene	120-82-1	< 400	400	81	65.84
11995	1,1,1-Trichloroethane	71-55-6	< 400	400	81	65.84
11995	1,1,2-Trichloroethane	79-00-5	< 400	400	81	65.84
11995	Trichloroethene	79-01-6	< 400	400	81	65.84
11995	Trichlorofluoromethane	75-69-4	2,000	400	160	65.84
11995	Vinyl Chloride	75-01-4	< 400	400	81	65.84
11995	Xylene (Total)	1330-20-7	8,500	400	81	65.84

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262929
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 520	520	100	5
10726	Acenaphthylene	208-96-8	< 520	520	100	5
10726	Acetophenone	98-86-2	< 1,000	1,000	510	5
10726	Anthracene	120-12-7	680	520	100	5
10726	Atrazine	1912-24-9	< 5,100	5,100	1,000	5
10726	Benzaldehyde	100-52-7	< 5,100	5,100	2,000	5
10726	Benzo(a)anthracene	56-55-3	1,100	520	100	5
10726	Benzo(a)pyrene	50-32-8	1,600	520	100	5
10726	Benzo(b)fluoranthene	205-99-2	2,200	520	100	5
10726	Benzo(g,h,i)perylene	191-24-2	1,800	520	100	5
10726	Benzo(k)fluoranthene	207-08-9	1,100	520	100	5
10726	1,1'-Biphenyl	92-52-4	< 1,000	1,000	510	5
10726	4-Bromophenyl-phenylether	101-55-3	< 1,000	1,000	510	5
10726	Butylbenzylphthalate	85-68-7	< 5,100	5,100	2,000	5
10726	Di-n-butylphthalate	84-74-2	< 5,100	5,100	2,000	5
10726	Caprolactam	105-60-2	< 5,100	5,100	1,000	5
10726	Carbazole	86-74-8	< 1,000	1,000	510	5
10726	4-Chloro-3-methylphenol	59-50-7	< 1,000	1,000	510	5
10726	4-Chloroaniline	106-47-8	< 2,000	2,000	1,000	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 1,000	1,000	510	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 1,000	1,000	510	5
10726	2-Chloronaphthalene	91-58-7	< 1,000	1,000	200	5
10726	2-Chlorophenol	95-57-8	< 1,000	1,000	510	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 1,000	1,000	510	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1,000	1,000	510	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,700	520	100	5
10726	Dibenz(a,h)anthracene	53-70-3	< 520	520	100	5
10726	Dibenzofuran	132-64-9	< 1,000	1,000	510	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 10,000	10,000	3,000	5
10726	2,4-Dichlorophenol	120-83-2	< 1,000	1,000	510	5
10726	Diethylphthalate	84-66-2	< 5,100	5,100	2,000	5
10726	2,4-Dimethylphenol	105-67-9	< 1,000	1,000	510	5
10726	Dimethylphthalate	131-11-3	< 5,100	5,100	2,000	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 15,000	15,000	5,100	5
10726	2,4-Dinitrophenol	51-28-5	< 30,000	30,000	9,100	5
10726	2,4-Dinitrotoluene	121-14-2	< 5,100	5,100	2,000	5
10726	2,6-Dinitrotoluene	606-20-2	< 1,000	1,000	510	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	16,000	5,200	2,000	5
10726	Fluoranthene	206-44-0	2,800	520	100	5
10726	Fluorene	86-73-7	< 520	520	100	5
10726	Hexachlorobenzene	118-74-1	< 520	520	100	5
10726	Hexachlorobutadiene	87-68-3	< 1,000	1,000	510	5
10726	Hexachlorocyclopentadiene	77-47-4	< 15,000	15,000	5,100	5
10726	Hexachloroethane	67-72-1	< 5,100	5,100	1,000	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,600	520	100	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262929
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Isophorone	78-59-1	< 1,000	1,000	510	5
10726	2-Methylnaphthalene	91-57-6	< 520	520	100	5
10726	2-Methylphenol	95-48-7	< 1,000	1,000	510	5
10726	4-Methylphenol	106-44-5	< 1,000	1,000	510	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 520	520	100	5
10726	2-Nitroaniline	88-74-4	< 1,000	1,000	510	5
10726	3-Nitroaniline	99-09-2	< 5,100	5,100	2,000	5
10726	4-Nitroaniline	100-01-6	< 5,100	5,100	2,000	5
10726	Nitrobenzene	98-95-3	< 1,000	1,000	510	5
10726	2-Nitrophenol	88-75-5	< 1,000	1,000	510	5
10726	4-Nitrophenol	100-02-7	< 15,000	15,000	5,100	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 1,000	1,000	510	5
10726	N-Nitrosodiphenylamine	86-30-6	< 1,000	1,000	510	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 5,100	5,100	2,000	5
10726	Pentachlorophenol	87-86-5	< 5,200	5,200	1,000	5
10726	Phenanthrene	85-01-8	1,900	520	100	5
10726	Phenol	108-95-2	1,600	1,000	510	5
10726	Pyrene	129-00-0	2,800	520	100	5
10726	2,4,5-Trichlorophenol	95-95-4	< 1,000	1,000	510	5
10726	2,4,6-Trichlorophenol	88-06-2	< 1,000	1,000	510	5
Reporting limits were raised due to interference from the sample matrix.						
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	47	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	47	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 350	350	120	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 350	350	120	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	47	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	47	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	47	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	47	1
13413	HMX	2691-41-0	< 350	350	120	1
13413	Nitrobenzene	98-95-3	< 350	350	120	1
13413	Nitroglycerin	55-63-0	< 2,800	2,800	940	1
13413	2-Nitrotoluene	88-72-2	< 140	140	47	1
13413	3-Nitrotoluene	99-08-1	< 140	140	47	1
13413	4-Nitrotoluene	99-99-0	< 140	140	47	1
13413	PETN	78-11-5	< 2,800	2,800	940	1
13413	RDX	121-82-4	< 140	140	47	1
13413	Tetryl	479-45-8	< 350	350	120	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	47	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	47	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262929
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:00 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
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CPS50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 2,100	2,100	440	100
10885	PCB-1221	11104-28-2	< 2,100	2,100	560	100
10885	PCB-1232	11141-16-5	< 2,100	2,100	970	100
10885	PCB-1242	53469-21-9	< 2,100	2,100	400	100
10885	PCB-1248	12672-29-6	28,000	2,100	400	100
10885	PCB-1254	11097-69-1	11,000	2,100	400	100
10885	PCB-1260	11096-82-5	< 2,100	2,100	600	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	6.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	13,200	223	42.6	5
06946	Barium	7440-39-3	294	1.11	0.134	1
01650	Calcium	7440-70-2	16,000	44.5	3.71	1
06952	Cobalt	7440-48-4	15.3	5.56	0.451	5
06953	Copper	7440-50-8	1,140	11.1	1.78	5
01654	Iron	7439-89-6	145,000	223	18.5	5
06955	Lead	7439-92-1	1,970	16.7	2.28	5
01657	Magnesium	7439-95-4	4,060	22.3	1.86	1
06958	Manganese	7439-96-5	987	1.11	0.134	1
06961	Nickel	7440-02-0	141	2.23	0.256	1
01662	Potassium	7440-09-7	2,290	111	18.7	1
01667	Sodium	7440-23-5	468	223	18.6	1
06970	Titanium	7440-32-6	704	11.1	2.06	5
06971	Vanadium	7440-62-2	40.9	5.56	1.28	5
06972	Zinc	7440-66-6	2,750	22.3	4.28	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	14.3	0.445	0.0734	2
06125	Arsenic	7440-38-2	17.7	0.890	0.167	2
06127	Beryllium	7440-41-7	0.389	0.223	0.0158	2
06128	Cadmium	7440-43-9	8.65	0.223	0.0512	2
06131	Chromium	7440-47-3	232	0.890	0.111	2
06141	Selenium	7782-49-2	< 0.890	0.890	0.111	2
06142	Silver	7440-22-4	1.37	0.223	0.0223	2
06145	Thallium	7440-28-0	< 1.11	1.11	0.167	10
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.30	0.602	0.0301	2.5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	18.3	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

*=This limit was used in the evaluation of the final result

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-05-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262929
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:00 by TK

Submitted: 02/27/2016 09:50
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1200 Peachtree Street, NE
Box 13
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CPS50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016	11:41	Anita M Dale	65.84
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	17:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	17:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	17:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	03:46	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	14:54	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	05:57	Jessica L Miller	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	11:44	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	10:14	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:20	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:20	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	10:14	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	16:51	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	10:14	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	10:14	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:20	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:20	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:20	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:20	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:20	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	10:14	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	10:14	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	10:14	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:56	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:56	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:56	Tara L Snyder	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-05-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262929
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016 13:56	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 13:56	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:56	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016 13:56	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/09/2016 13:58	Deborah A Krady	10
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:28	Damary Valentin	2.5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262930
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	21	21	7	0.97
11995	Benzene	71-43-2	< 5	5	0.5	0.97
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.97
11995	Bromoform	75-25-2	< 5	5	1	0.97
11995	Bromomethane	74-83-9	< 5	5	2	0.97
11995	2-Butanone	78-93-3	< 10	10	4	0.97
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.97
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.97
11995	Chlorobenzene	108-90-7	< 5	5	1	0.97
11995	Chloroethane	75-00-3	< 5	5	2	0.97
11995	Chloroform	67-66-3	< 5	5	1	0.97
11995	Chloromethane	74-87-3	< 5	5	2	0.97
11995	Cyclohexane	110-82-7	< 5	5	1	0.97
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.97
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.97
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.97
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.97
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.97
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.97
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.97
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.97
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.97
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.97
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.97
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.97
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.97
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.97
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.97
11995	Ethylbenzene	100-41-4	< 5	5	1	0.97
11995	Freon 113	76-13-1	< 10	10	2	0.97
11995	2-Hexanone	591-78-6	< 10	10	3	0.97
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.97
11995	Methyl Acetate	79-20-9	< 5	5	2	0.97
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.97
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.97
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.97
11995	Methylene Chloride	75-09-2	< 5	5	2	0.97
11995	Styrene	100-42-5	< 5	5	1	0.97
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.97
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.97
11995	Toluene	108-88-3	< 5	5	1	0.97
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.97
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.97
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.97
11995	Trichloroethene	79-01-6	< 5	5	1	0.97
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.97
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.97
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.97

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262930
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

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The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for the initial analysis.

Internal Standard - Initial Analysis	% Recovery
Fluorobenzene	-90
Chlorobenzene-d5	-90
1,4-Dichlorobenzene-d4	-93
tert-Butyl Alcohol-d10	-80

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	4	1
10726	Acenaphthylene	208-96-8	< 18	18	4	1
10726	Acetophenone	98-86-2	< 36	36	18	1
10726	Anthracene	120-12-7	< 18	18	4	1
10726	Atrazine	1912-24-9	< 180	180	36	1
10726	Benzaldehyde	100-52-7	< 180	180	71	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	4	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	4	1
10726	1,1'-Biphenyl	92-52-4	< 36	36	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 36	36	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	71	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	71	1
10726	Caprolactam	105-60-2	< 180	180	36	1
10726	Carbazole	86-74-8	< 36	36	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 36	36	18	1
10726	4-Chloroaniline	106-47-8	< 71	71	36	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 36	36	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 36	36	18	1
10726	2-Chloronaphthalene	91-58-7	< 35	35	7	1
10726	2-Chlorophenol	95-57-8	< 36	36	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 36	36	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 36	36	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	4	1
10726	Dibenzofuran	132-64-9	< 36	36	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 360	360	110	1
10726	2,4-Dichlorophenol	120-83-2	< 36	36	18	1
10726	Diethylphthalate	84-66-2	< 180	180	71	1
10726	2,4-Dimethylphenol	105-67-9	< 36	36	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	71	1

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Sample Description: SBO-05-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262930
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
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CPS56

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 540	540	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	320	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	71	1
10726	2,6-Dinitrotoluene	606-20-2	< 36	36	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	71	1
10726	Fluoranthene	206-44-0	< 18	18	4	1
10726	Fluorene	86-73-7	< 18	18	4	1
10726	Hexachlorobenzene	118-74-1	< 18	18	4	1
10726	Hexachlorobutadiene	87-68-3	< 36	36	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 540	540	180	1
10726	Hexachloroethane	67-72-1	< 180	180	36	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	4	1
10726	Isophorone	78-59-1	< 36	36	18	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	4	1
10726	2-Methylphenol	95-48-7	< 36	36	18	1
10726	4-Methylphenol	106-44-5	< 36	36	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	4	1
10726	2-Nitroaniline	88-74-4	< 36	36	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	71	1
10726	4-Nitroaniline	100-01-6	< 180	180	71	1
10726	Nitrobenzene	98-95-3	< 36	36	18	1
10726	2-Nitrophenol	88-75-5	< 36	36	18	1
10726	4-Nitrophenol	100-02-7	< 540	540	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 36	36	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 36	36	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	71	1
10726	Pentachlorophenol	87-86-5	< 180	180	36	1
10726	Phenanthrene	85-01-8	< 18	18	4	1
10726	Phenol	108-95-2	< 36	36	18	1
10726	Pyrene	129-00-0	< 18	18	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 36	36	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 36	36	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	43	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	43	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 320	320	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 320	320	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	43	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	43	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	43	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	43	1
13413	HMX	2691-41-0	< 320	320	110	1

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Sample Description: SBO-05-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262930
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
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Box 13
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CPS56

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	Nitrobenzene	98-95-3	< 320	320	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	860	1
13413	2-Nitrotoluene	88-72-2	< 130	130	43	1
13413	3-Nitrotoluene	99-08-1	< 130	130	43	1
13413	4-Nitrotoluene	99-99-0	< 130	130	43	1
13413	PETN	78-11-5	< 2,600	2,600	860	1
13413	RDX	121-82-4	< 130	130	43	1
13413	Tetryl	479-45-8	< 320	320	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	43	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	43	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.8	1
10885	PCB-1221	11104-28-2	< 18	18	4.9	1
10885	PCB-1232	11141-16-5	< 18	18	8.5	1
10885	PCB-1242	53469-21-9	< 18	18	3.5	1
10885	PCB-1248	12672-29-6	< 18	18	3.5	1
10885	PCB-1254	11097-69-1	< 18	18	3.5	1
10885	PCB-1260	11096-82-5	< 18	18	5.2	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.4	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	11,200	36.8	7.05	1
06946	Barium	7440-39-3	52.7	0.921	0.111	1
01650	Calcium	7440-70-2	303	36.8	3.07	1
06952	Cobalt	7440-48-4	4.16	0.921	0.0746	1
06953	Copper	7440-50-8	3.18	1.84	0.295	1
01654	Iron	7439-89-6	11,400	36.8	3.07	1
06955	Lead	7439-92-1	4.20	2.76	0.378	1
01657	Magnesium	7439-95-4	1,550	18.4	1.54	1
06958	Manganese	7439-96-5	213	0.921	0.111	1
06961	Nickel	7440-02-0	4.62	1.84	0.212	1
01662	Potassium	7440-09-7	1,210	92.1	15.5	1
01667	Sodium	7440-23-5	< 184	184	15.4	1
06970	Titanium	7440-32-6	622	1.84	0.341	1
06971	Vanadium	7440-62-2	23.6	0.921	0.212	1
06972	Zinc	7440-66-6	21.0	3.68	0.709	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.368	0.368	0.0608	2
06125	Arsenic	7440-38-2	1.44	0.737	0.138	2
06127	Beryllium	7440-41-7	0.486	0.184	0.0131	2
06128	Cadmium	7440-43-9	< 0.184	0.184	0.0424	2
06131	Chromium	7440-47-3	10.6	0.737	0.0921	2
06141	Selenium	7782-49-2	< 0.737	0.737	0.0921	2

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262930
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

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CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals		**SW-846 6020A**		**mg/kg**	**mg/kg**	**mg/kg**	
06142	Silver		7440-22-4	< 0.184	0.184	0.0184	2
06145	Thallium		7440-28-0	< 0.184	0.184	0.0276	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	< 0.203	0.203	0.0102	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	7.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160702AA	03/10/2016 13:08	Angela D Sneeringer	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016 17:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016 17:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016 17:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016 04:09	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016 15:31	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016 06:09	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016 21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016 14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016 12:56	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016 10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-05-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262930
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

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CPS56

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016 16:08	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016 09:23	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016 06:59	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016 06:59	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016 06:59	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016 06:59	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 14:00	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:59	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016 06:59	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:59	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:14	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16063820005B	03/03/2016 19:05	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262931
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:45 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 23	23	8	1.08
11995	Benzene	71-43-2	< 6	6	0.6	1.08
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.08
11995	Bromoform	75-25-2	< 6	6	1	1.08
11995	Bromomethane	74-83-9	< 6	6	2	1.08
11995	2-Butanone	78-93-3	< 11	11	5	1.08
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.08
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.08
11995	Chlorobenzene	108-90-7	< 6	6	1	1.08
11995	Chloroethane	75-00-3	< 6	6	2	1.08
11995	Chloroform	67-66-3	< 6	6	1	1.08
11995	Chloromethane	74-87-3	< 6	6	2	1.08
11995	Cyclohexane	110-82-7	< 6	6	1	1.08
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	1.08
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.08
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.08
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.08
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.08
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.08
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	1.08
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.08
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.08
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.08
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.08
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.08
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.08
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.08
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.08
11995	Ethylbenzene	100-41-4	< 6	6	1	1.08
11995	Freon 113	76-13-1	< 11	11	2	1.08
11995	2-Hexanone	591-78-6	< 11	11	3	1.08
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.08
11995	Methyl Acetate	79-20-9	< 6	6	2	1.08
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.08
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.08
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.08
11995	Methylene Chloride	75-09-2	< 6	6	2	1.08
11995	Styrene	100-42-5	< 6	6	1	1.08
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.08
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.08
11995	Toluene	108-88-3	< 6	6	1	1.08
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.08
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.08
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.08
11995	Trichloroethene	79-01-6	< 6	6	1	1.08
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	1.08
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.08
11995	Xylene (Total)	1330-20-7	< 6	6	1	1.08
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262931
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:45 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	3	1
10726	Acetophenone	98-86-2	< 35	35	17	1
10726	Anthracene	120-12-7	< 18	18	3	1
10726	Atrazine	1912-24-9	< 170	170	35	1
10726	Benzaldehyde	100-52-7	< 170	170	70	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	3	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	3	1
10726	1,1'-Biphenyl	92-52-4	< 35	35	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 35	35	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	70	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	70	1
10726	Caprolactam	105-60-2	< 170	170	35	1
10726	Carbazole	86-74-8	< 35	35	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 35	35	17	1
10726	4-Chloroaniline	106-47-8	< 70	70	35	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 35	35	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 35	35	17	1
10726	2-Chloronaphthalene	91-58-7	< 34	34	7	1
10726	2-Chlorophenol	95-57-8	< 35	35	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 35	35	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 35	35	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	3	1
10726	Dibenzofuran	132-64-9	< 35	35	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 350	350	100	1
10726	2,4-Dichlorophenol	120-83-2	< 35	35	17	1
10726	Diethylphthalate	84-66-2	< 170	170	70	1
10726	2,4-Dimethylphenol	105-67-9	< 35	35	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	70	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 520	520	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	310	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	70	1
10726	2,6-Dinitrotoluene	606-20-2	< 35	35	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	70	1
10726	Fluoranthene	206-44-0	< 18	18	3	1
10726	Fluorene	86-73-7	< 18	18	3	1
10726	Hexachlorobenzene	118-74-1	< 18	18	3	1
10726	Hexachlorobutadiene	87-68-3	< 35	35	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 520	520	170	1
10726	Hexachloroethane	67-72-1	< 170	170	35	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	3	1
10726	Isophorone	78-59-1	< 35	35	17	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	3	1
10726	2-Methylphenol	95-48-7	< 35	35	17	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262931
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:45 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 35	35	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	3	1
10726	2-Nitroaniline	88-74-4	< 35	35	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	70	1
10726	4-Nitroaniline	100-01-6	< 170	170	70	1
10726	Nitrobenzene	98-95-3	< 35	35	17	1
10726	2-Nitrophenol	88-75-5	< 35	35	17	1
10726	4-Nitrophenol	100-02-7	< 520	520	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 35	35	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 35	35	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	70	1
10726	Pentachlorophenol	87-86-5	< 180	180	35	1
10726	Phenanthrene	85-01-8	< 18	18	3	1
10726	Phenol	108-95-2	< 35	35	17	1
10726	Pyrene	129-00-0	< 18	18	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 35	35	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 35	35	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 300	300	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 300	300	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 300	300	100	1
13413	Nitrobenzene	98-95-3	< 300	300	100	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	810	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,400	2,400	810	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 300	300	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.7	1
10885	PCB-1221	11104-28-2	< 18	18	4.8	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-05-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262931
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:45 by TK

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CPS51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 18	18	8.3	1
10885	PCB-1242	53469-21-9	< 18	18	3.4	1
10885	PCB-1248	12672-29-6	27	18	3.4	1
10885	PCB-1254	11097-69-1	22	18	3.4	1
10885	PCB-1260	11096-82-5	< 18	18	5.1	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.3	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	3,280	28.3	5.43	1
06946	Barium	7440-39-3	29.1	0.709	0.0850	1
01650	Calcium	7440-70-2	1,210	28.3	2.36	1
06952	Cobalt	7440-48-4	1.66	0.709	0.0574	1
06953	Copper	7440-50-8	9.46	1.42	0.227	1
01654	Iron	7439-89-6	7,470	28.3	2.36	1
06955	Lead	7439-92-1	19.1	2.13	0.291	1
01657	Magnesium	7439-95-4	480	14.2	1.18	1
06958	Manganese	7439-96-5	115	0.709	0.0850	1
06961	Nickel	7440-02-0	3.86	1.42	0.163	1
01662	Potassium	7440-09-7	458	70.9	11.9	1
01667	Sodium	7440-23-5	< 142	142	11.8	1
06970	Titanium	7440-32-6	207	1.42	0.262	1
06971	Vanadium	7440-62-2	9.36	0.709	0.163	1
06972	Zinc	7440-66-6	85.9	2.83	0.546	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.308	0.283	0.0468	2
06125	Arsenic	7440-38-2	1.22	0.567	0.106	2
06127	Beryllium	7440-41-7	0.171	0.142	0.0101	2
06128	Cadmium	7440-43-9	0.252	0.142	0.0326	2
06131	Chromium	7440-47-3	10.5	0.567	0.0709	2
06141	Selenium	7782-49-2	< 0.567	0.567	0.0709	2
06142	Silver	7440-22-4	< 0.142	0.142	0.0142	2
06145	Thallium	7440-28-0	< 0.142	0.142	0.0213	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.208	0.208	0.0104	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-05-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262931
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

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1200 Peachtree Street, NE
Box 13
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CPS51

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016	22:58	Christopher G Torres	1.08
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	17:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	17:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	17:45	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	04:31	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	16:08	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	06:32	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	13:14	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	16:11	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	09:33	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	07:08	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	07:08	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	07:08	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	14:02	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	14:02	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	07:08	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	07:08	Tara L Snyder	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-05-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262931
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:45 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS51

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 07:08	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:16	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16063820010A	03/03/2016 20:37	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-6-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262932
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU6

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 24	24	8	1.15
11995	Benzene	71-43-2	< 6	6	0.6	1.15
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.15
11995	Bromoform	75-25-2	< 6	6	1	1.15
11995	Bromomethane	74-83-9	< 6	6	2	1.15
11995	2-Butanone	78-93-3	< 12	12	5	1.15
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.15
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.15
11995	Chlorobenzene	108-90-7	< 6	6	1	1.15
11995	Chloroethane	75-00-3	< 6	6	2	1.15
11995	Chloroform	67-66-3	< 6	6	1	1.15
11995	Chloromethane	74-87-3	< 6	6	2	1.15
11995	Cyclohexane	110-82-7	< 6	6	1	1.15
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	1.15
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.15
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.15
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.15
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.15
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.15
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	1.15
11995	1,1-Dichloroethane	75-34-3	< 6	6	1	1.15
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.15
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.15
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.15
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.15
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.15
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.15
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.15
11995	Ethylbenzene	100-41-4	< 6	6	1	1.15
11995	Freon 113	76-13-1	< 12	12	2	1.15
11995	2-Hexanone	591-78-6	< 12	12	4	1.15
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.15
11995	Methyl Acetate	79-20-9	< 6	6	2	1.15
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.15
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	4	1.15
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.15
11995	Methylene Chloride	75-09-2	< 6	6	2	1.15
11995	Styrene	100-42-5	< 6	6	1	1.15
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.15
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.15
11995	Toluene	108-88-3	< 6	6	1	1.15
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.15
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.15
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.15
11995	Trichloroethene	79-01-6	< 6	6	1	1.15
11995	Trichlorofluoromethane	75-69-4	< 6	6	2	1.15
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.15
11995	Xylene (Total)	1330-20-7	< 6	6	1	1.15
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-6-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262932
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU6

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 18	18	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	69	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	3	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	69	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	69	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 69	69	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 34	34	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	69	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	69	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 520	520	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	310	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	69	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	69	1
10726	Fluoranthene	206-44-0	< 18	18	3	1
10726	Fluorene	86-73-7	< 18	18	3	1
10726	Hexachlorobenzene	118-74-1	< 18	18	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 520	520	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	3	1
10726	2-Methylphenol	95-48-7	< 34	34	17	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-6-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262932
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU6

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	69	1
10726	4-Nitroaniline	100-01-6	< 170	170	69	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 520	520	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	69	1
10726	Pentachlorophenol	87-86-5	< 180	180	34	1
10726	Phenanthrene	85-01-8	< 18	18	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 18	18	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	41	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	41	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	41	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	41	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	41	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	41	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	820	1
13413	2-Nitrotoluene	88-72-2	< 120	120	41	1
13413	3-Nitrotoluene	99-08-1	< 120	120	41	1
13413	4-Nitrotoluene	99-99-0	< 120	120	41	1
13413	PETN	78-11-5	< 2,500	2,500	820	1
13413	RDX	121-82-4	< 120	120	41	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	41	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	41	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.7	1
10885	PCB-1221	11104-28-2	< 17	17	4.7	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-6-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262932
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU6

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 17	17	8.2	1
10885	PCB-1242	53469-21-9	< 17	17	3.4	1
10885	PCB-1248	12672-29-6	< 17	17	3.4	1
10885	PCB-1254	11097-69-1	< 17	17	3.4	1
10885	PCB-1260	11096-82-5	< 17	17	5.0	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.2	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	3,950	33.1	6.33	1
06946	Barium	7440-39-3	19.0	0.826	0.0992	1
01650	Calcium	7440-70-2	115	33.1	2.75	1
06952	Cobalt	7440-48-4	1.65	0.826	0.0669	1
06953	Copper	7440-50-8	< 1.65	1.65	0.264	1
01654	Iron	7439-89-6	4,490	33.1	2.75	1
06955	Lead	7439-92-1	< 2.48	2.48	0.339	1
01657	Magnesium	7439-95-4	505	16.5	1.38	1
06958	Manganese	7439-96-5	107	0.826	0.0992	1
06961	Nickel	7440-02-0	< 1.65	1.65	0.190	1
01662	Potassium	7440-09-7	450	82.6	13.9	1
01667	Sodium	7440-23-5	< 165	165	13.8	1
06970	Titanium	7440-32-6	228	1.65	0.306	1
06971	Vanadium	7440-62-2	9.03	0.826	0.190	1
06972	Zinc	7440-66-6	7.48	3.31	0.636	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.331	0.331	0.0545	2
06125	Arsenic	7440-38-2	< 0.661	0.661	0.124	2
06127	Beryllium	7440-41-7	0.182	0.165	0.0117	2
06128	Cadmium	7440-43-9	< 0.165	0.165	0.0380	2
06131	Chromium	7440-47-3	4.52	0.661	0.0826	2
06141	Selenium	7782-49-2	< 0.661	0.661	0.0826	2
06142	Silver	7440-22-4	< 0.165	0.165	0.0165	2
06145	Thallium	7440-28-0	< 0.165	0.165	0.0248	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.203	0.203	0.0101	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	3.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-6-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262932
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU6

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016	23:21	Christopher G Torres	1.15
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	12:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	04:55	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	16:44	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	06:55	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	13:32	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	16:14	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	09:37	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	07:11	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	07:11	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	07:11	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016	07:11	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	14:03	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	07:11	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	07:11	Tara L Snyder	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-6-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262932
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU6

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 07:11	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:18	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-5-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262933
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU5

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	71	17	6	0.76
11995	Benzene	71-43-2	< 4	4	0.4	0.76
11995	Bromodichloromethane	75-27-4	< 4	4	0.8	0.76
11995	Bromoform	75-25-2	< 4	4	0.8	0.76
11995	Bromomethane	74-83-9	< 4	4	2	0.76
11995	2-Butanone	78-93-3	14	8	3	0.76
11995	Carbon Disulfide	75-15-0	< 4	4	0.8	0.76
11995	Carbon Tetrachloride	56-23-5	< 4	4	0.8	0.76
11995	Chlorobenzene	108-90-7	< 4	4	0.8	0.76
11995	Chloroethane	75-00-3	< 4	4	2	0.76
11995	Chloroform	67-66-3	< 4	4	0.8	0.76
11995	Chloromethane	74-87-3	< 4	4	2	0.76
11995	Cyclohexane	110-82-7	< 4	4	0.8	0.76
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 4	4	2	0.76
11995	Dibromochloromethane	124-48-1	< 4	4	0.8	0.76
11995	1,2-Dibromoethane	106-93-4	< 4	4	0.8	0.76
11995	1,2-Dichlorobenzene	95-50-1	< 4	4	0.8	0.76
11995	1,3-Dichlorobenzene	541-73-1	< 4	4	0.8	0.76
11995	1,4-Dichlorobenzene	106-46-7	< 4	4	0.8	0.76
11995	Dichlorodifluoromethane	75-71-8	< 4	4	2	0.76
11995	1,1-Dichloroethane	75-34-3	< 4	4	0.8	0.76
11995	1,2-Dichloroethane	107-06-2	< 4	4	0.8	0.76
11995	1,1-Dichloroethene	75-35-4	< 4	4	0.8	0.76
11995	cis-1,2-Dichloroethene	156-59-2	< 4	4	0.8	0.76
11995	trans-1,2-Dichloroethene	156-60-5	< 4	4	0.8	0.76
11995	1,2-Dichloropropane	78-87-5	< 4	4	0.8	0.76
11995	cis-1,3-Dichloropropene	10061-01-5	< 4	4	0.8	0.76
11995	trans-1,3-Dichloropropene	10061-02-6	< 4	4	0.8	0.76
11995	Ethylbenzene	100-41-4	< 4	4	0.8	0.76
11995	Freon 113	76-13-1	< 8	8	2	0.76
11995	2-Hexanone	591-78-6	< 8	8	3	0.76
11995	Isopropylbenzene	98-82-8	< 4	4	0.8	0.76
11995	Methyl Acetate	79-20-9	< 4	4	2	0.76
11995	Methyl Tertiary Butyl Ether	1634-04-4	110	4	0.4	0.76
11995	4-Methyl-2-pentanone	108-10-1	< 8	8	3	0.76
11995	Methylcyclohexane	108-87-2	< 4	4	0.8	0.76
11995	Methylene Chloride	75-09-2	< 4	4	2	0.76
11995	Styrene	100-42-5	< 4	4	0.8	0.76
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 4	4	0.8	0.76
11995	Tetrachloroethene	127-18-4	< 4	4	0.8	0.76
11995	Toluene	108-88-3	< 4	4	0.8	0.76
11995	1,2,4-Trichlorobenzene	120-82-1	< 4	4	0.8	0.76
11995	1,1,1-Trichloroethane	71-55-6	< 4	4	0.8	0.76
11995	1,1,2-Trichloroethane	79-00-5	< 4	4	0.8	0.76
11995	Trichloroethene	79-01-6	< 4	4	0.8	0.76
11995	Trichlorofluoromethane	75-69-4	< 4	4	2	0.76
11995	Vinyl Chloride	75-01-4	< 4	4	0.8	0.76
11995	Xylene (Total)	1330-20-7	< 4	4	0.8	0.76

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-5-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262933
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU5

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	250	94	18	1
10726	Acenaphthylene	208-96-8	< 94	94	18	1
10726	Acetophenone	98-86-2	< 180	180	92	1
10726	Anthracene	120-12-7	420	94	18	1
10726	Atrazine	1912-24-9	< 920	920	180	1
10726	Benzaldehyde	100-52-7	< 920	920	370	1
10726	Benzo(a)anthracene	56-55-3	700	94	18	1
10726	Benzo(a)pyrene	50-32-8	840	94	18	1
10726	Benzo(b)fluoranthene	205-99-2	1,100	94	18	1
10726	Benzo(g,h,i)perylene	191-24-2	960	94	18	1
10726	Benzo(k)fluoranthene	207-08-9	600	94	18	1
10726	1,1'-Biphenyl	92-52-4	< 180	180	92	1
10726	4-Bromophenyl-phenylether	101-55-3	< 180	180	92	1
10726	Butylbenzylphthalate	85-68-7	3,300	920	370	1
10726	Di-n-butylphthalate	84-74-2	< 920	920	370	1
10726	Caprolactam	105-60-2	< 920	920	180	1
10726	Carbazole	86-74-8	190	180	92	1
10726	4-Chloro-3-methylphenol	59-50-7	< 180	180	92	1
10726	4-Chloroaniline	106-47-8	< 370	370	180	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 180	180	92	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 180	180	92	1
10726	2-Chloronaphthalene	91-58-7	< 180	180	37	1
10726	2-Chlorophenol	95-57-8	< 180	180	92	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 180	180	92	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 180	180	92	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	960	94	18	1
10726	Dibenz(a,h)anthracene	53-70-3	250	94	18	1
10726	Dibenzofuran	132-64-9	< 180	180	92	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 1,800	1,800	550	1
10726	2,4-Dichlorophenol	120-83-2	< 180	180	92	1
10726	Diethylphthalate	84-66-2	< 920	920	370	1
10726	2,4-Dimethylphenol	105-67-9	< 180	180	92	1
10726	Dimethylphthalate	131-11-3	< 920	920	370	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 2,800	2,800	920	1
10726	2,4-Dinitrophenol	51-28-5	< 5,500	5,500	1,700	1
10726	2,4-Dinitrotoluene	121-14-2	< 920	920	370	1
10726	2,6-Dinitrotoluene	606-20-2	< 180	180	92	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	2,600	940	370	1
10726	Fluoranthene	206-44-0	1,300	94	18	1
10726	Fluorene	86-73-7	220	94	18	1
10726	Hexachlorobenzene	118-74-1	< 94	94	18	1
10726	Hexachlorobutadiene	87-68-3	< 180	180	92	1
10726	Hexachlorocyclopentadiene	77-47-4	< 2,800	2,800	920	1
10726	Hexachloroethane	67-72-1	< 920	920	180	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	880	94	18	1
10726	Isophorone	78-59-1	< 180	180	92	1
10726	2-Methylnaphthalene	91-57-6	130	94	18	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-DUP-5-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262933
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU5

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	2-Methylphenol	95-48-7	< 180	180	92	1
10726	4-Methylphenol	106-44-5	< 180	180	92	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	220	94	18	1
10726	2-Nitroaniline	88-74-4	< 180	180	92	1
10726	3-Nitroaniline	99-09-2	< 920	920	370	1
10726	4-Nitroaniline	100-01-6	< 920	920	370	1
10726	Nitrobenzene	98-95-3	< 180	180	92	1
10726	2-Nitrophenol	88-75-5	< 180	180	92	1
10726	4-Nitrophenol	100-02-7	< 2,800	2,800	920	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 180	180	92	1
10726	N-Nitrosodiphenylamine	86-30-6	< 180	180	92	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 920	920	370	1
10726	Pentachlorophenol	87-86-5	< 940	940	180	1
10726	Phenanthrene	85-01-8	1,300	94	18	1
10726	Phenol	108-95-2	< 180	180	92	1
10726	Pyrene	129-00-0	1,600	94	18	1
10726	2,4,5-Trichlorophenol	95-95-4	< 180	180	92	1
10726	2,4,6-Trichlorophenol	88-06-2	< 180	180	92	1
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	890	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,700	2,700	890	1
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-5-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262933
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU5

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	400	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	510	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	890	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	370	100
10885	PCB-1248	12672-29-6	8,000	1,900	370	100
10885	PCB-1254	11097-69-1	7,000	1,900	370	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	550	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.6	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	13,600	179	34.3	5
06946	Barium	7440-39-3	244	0.897	0.108	1
01650	Calcium	7440-70-2	9,710	35.9	2.99	1
06952	Cobalt	7440-48-4	10.5	4.48	0.363	5
06953	Copper	7440-50-8	1,630	8.97	1.43	5
01654	Iron	7439-89-6	111,000	179	14.9	5
06955	Lead	7439-92-1	662	13.5	1.84	5
01657	Magnesium	7439-95-4	1,680	17.9	1.50	1
06958	Manganese	7439-96-5	728	0.897	0.108	1
06961	Nickel	7440-02-0	93.5	1.79	0.206	1
01662	Potassium	7440-09-7	758	89.7	15.1	1
01667	Sodium	7440-23-5	227	179	15.0	1
06970	Titanium	7440-32-6	264	8.97	1.66	5
06971	Vanadium	7440-62-2	40.0	4.48	1.03	5
06972	Zinc	7440-66-6	2,930	17.9	3.45	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	7.54	0.359	0.0592	2
06125	Arsenic	7440-38-2	19.5	0.717	0.135	2
06127	Beryllium	7440-41-7	0.375	0.179	0.0127	2
06128	Cadmium	7440-43-9	5.34	0.179	0.0413	2
06131	Chromium	7440-47-3	187	0.717	0.0897	2
06141	Selenium	7782-49-2	< 0.717	0.717	0.0897	2
06142	Silver	7440-22-4	0.332	0.179	0.0179	2
06145	Thallium	7440-28-0	0.202	0.179	0.0269	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.498	0.218	0.0109	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-5-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262933
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU5

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160702AA	03/10/2016	13:53	Angela D Sneeringer	0.76
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	12:00	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	05:18	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	17:21	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160680020A	03/14/2016	21:46	Kirby B Turner	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160680020A	03/09/2016	08:50	Olivia Arosemena	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	13:50	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	10:18	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:40	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:40	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	10:18	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	16:54	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	10:18	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	10:18	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:40	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:40	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:40	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:40	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:40	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	10:18	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	10:18	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	10:18	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	07:15	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	07:15	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	07:15	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	14:05	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	14:05	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	07:15	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016	14:05	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-DUP-5-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262933
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 12:00 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU5

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 07:15	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:20	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262934
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS60

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	370	23	8	1.01
11995	Benzene	71-43-2	< 6	6	0.6	1.01
11995	Bromodichloromethane	75-27-4	< 6	6	1	1.01
11995	Bromoform	75-25-2	< 6	6	1	1.01
11995	Bromomethane	74-83-9	< 6	6	2	1.01
11995	2-Butanone	78-93-3	59	12	5	1.01
11995	Carbon Disulfide	75-15-0	< 6	6	1	1.01
11995	Carbon Tetrachloride	56-23-5	< 6	6	1	1.01
11995	Chlorobenzene	108-90-7	< 6	6	1	1.01
11995	Chloroethane	75-00-3	350	6	2	1.01
11995	Chloroform	67-66-3	< 6	6	1	1.01
11995	Chloromethane	74-87-3	< 6	6	2	1.01
11995	Cyclohexane	110-82-7	< 6	6	1	1.01
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 6	6	2	1.01
11995	Dibromochloromethane	124-48-1	< 6	6	1	1.01
11995	1,2-Dibromoethane	106-93-4	< 6	6	1	1.01
11995	1,2-Dichlorobenzene	95-50-1	< 6	6	1	1.01
11995	1,3-Dichlorobenzene	541-73-1	< 6	6	1	1.01
11995	1,4-Dichlorobenzene	106-46-7	< 6	6	1	1.01
11995	Dichlorodifluoromethane	75-71-8	< 6	6	2	1.01
11995	1,1-Dichloroethane	75-34-3	88	6	1	1.01
11995	1,2-Dichloroethane	107-06-2	< 6	6	1	1.01
11995	1,1-Dichloroethene	75-35-4	< 6	6	1	1.01
11995	cis-1,2-Dichloroethene	156-59-2	< 6	6	1	1.01
11995	trans-1,2-Dichloroethene	156-60-5	< 6	6	1	1.01
11995	1,2-Dichloropropane	78-87-5	< 6	6	1	1.01
11995	cis-1,3-Dichloropropene	10061-01-5	< 6	6	1	1.01
11995	trans-1,3-Dichloropropene	10061-02-6	< 6	6	1	1.01
11995	Ethylbenzene	100-41-4	7	6	1	1.01
11995	Freon 113	76-13-1	< 12	12	2	1.01
11995	2-Hexanone	591-78-6	< 12	12	3	1.01
11995	Isopropylbenzene	98-82-8	< 6	6	1	1.01
11995	Methyl Acetate	79-20-9	< 6	6	2	1.01
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 6	6	0.6	1.01
11995	4-Methyl-2-pentanone	108-10-1	< 12	12	3	1.01
11995	Methylcyclohexane	108-87-2	< 6	6	1	1.01
11995	Methylene Chloride	75-09-2	< 6	6	2	1.01
11995	Styrene	100-42-5	36	6	1	1.01
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 6	6	1	1.01
11995	Tetrachloroethene	127-18-4	< 6	6	1	1.01
11995	Toluene	108-88-3	9	6	1	1.01
11995	1,2,4-Trichlorobenzene	120-82-1	< 6	6	1	1.01
11995	1,1,1-Trichloroethane	71-55-6	< 6	6	1	1.01
11995	1,1,2-Trichloroethane	79-00-5	< 6	6	1	1.01
11995	Trichloroethene	79-01-6	< 6	6	1	1.01
11995	Trichlorofluoromethane	75-69-4	200	6	2	1.01
11995	Vinyl Chloride	75-01-4	< 6	6	1	1.01
11995	Xylene (Total)	1330-20-7	13	6	1	1.01

The GC/MS volatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262934
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS60

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	from the initial analysis of the sample.					
	Internal Standard - Initial Analysis	% Recovery				
	Chlorobenzene-d5	-51				
	1,4-Dichlorobenzene-d4	-78				
	Internal Standard - Re-analysis	% Recovery				
	1,4-Dichlorobenzene-d4	-60				
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 480	480	95	5
10726	Acenaphthylene	208-96-8	< 480	480	95	5
10726	Acetophenone	98-86-2	< 950	950	470	5
10726	Anthracene	120-12-7	1,300	480	95	5
10726	Atrazine	1912-24-9	< 4,700	4,700	950	5
10726	Benzaldehyde	100-52-7	< 4,700	4,700	1,900	5
10726	Benzo(a)anthracene	56-55-3	4,200	480	95	5
10726	Benzo(a)pyrene	50-32-8	4,000	480	95	5
10726	Benzo(b)fluoranthene	205-99-2	5,300	480	95	5
10726	Benzo(g,h,i)perylene	191-24-2	2,900	480	95	5
10726	Benzo(k)fluoranthene	207-08-9	2,600	480	95	5
10726	1,1'-Biphenyl	92-52-4	< 950	950	470	5
10726	4-Bromophenyl-phenylether	101-55-3	< 950	950	470	5
10726	Butylbenzylphthalate	85-68-7	5,500	4,700	1,900	5
10726	Di-n-butylphthalate	84-74-2	< 4,700	4,700	1,900	5
10726	Caprolactam	105-60-2	< 4,700	4,700	950	5
10726	Carbazole	86-74-8	< 950	950	470	5
10726	4-Chloro-3-methylphenol	59-50-7	< 950	950	470	5
10726	4-Chloroaniline	106-47-8	< 1,900	1,900	950	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 950	950	470	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 950	950	470	5
10726	2-Chloronaphthalene	91-58-7	< 940	940	190	5
10726	2-Chlorophenol	95-57-8	< 950	950	470	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 950	950	470	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 950	950	470	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	5,100	480	95	5
10726	Dibenz(a,h)anthracene	53-70-3	950	480	95	5
10726	Dibenzofuran	132-64-9	< 950	950	470	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 9,500	9,500	2,800	5
10726	2,4-Dichlorophenol	120-83-2	< 950	950	470	5
10726	Diethylphthalate	84-66-2	< 4,700	4,700	1,900	5
10726	2,4-Dimethylphenol	105-67-9	< 950	950	470	5
10726	Dimethylphthalate	131-11-3	< 4,700	4,700	1,900	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 14,000	14,000	4,700	5
10726	2,4-Dinitrophenol	51-28-5	< 28,000	28,000	8,500	5
10726	2,4-Dinitrotoluene	121-14-2	< 4,700	4,700	1,900	5
10726	2,6-Dinitrotoluene	606-20-2	< 950	950	470	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	33,000	4,800	1,900	5
10726	Fluoranthene	206-44-0	9,500	480	95	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262934
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS60

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Fluorene	86-73-7	< 480	480	95	5
10726	Hexachlorobenzene	118-74-1	< 480	480	95	5
10726	Hexachlorobutadiene	87-68-3	< 950	950	470	5
10726	Hexachlorocyclopentadiene	77-47-4	< 14,000	14,000	4,700	5
10726	Hexachloroethane	67-72-1	< 4,700	4,700	950	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	2,500	480	95	5
10726	Isophorone	78-59-1	< 950	950	470	5
10726	2-Methylnaphthalene	91-57-6	570	480	95	5
10726	2-Methylphenol	95-48-7	< 950	950	470	5
10726	4-Methylphenol	106-44-5	< 950	950	470	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 480	480	95	5
10726	2-Nitroaniline	88-74-4	< 950	950	470	5
10726	3-Nitroaniline	99-09-2	< 4,700	4,700	1,900	5
10726	4-Nitroaniline	100-01-6	< 4,700	4,700	1,900	5
10726	Nitrobenzene	98-95-3	< 950	950	470	5
10726	2-Nitrophenol	88-75-5	< 950	950	470	5
10726	4-Nitrophenol	100-02-7	< 14,000	14,000	4,700	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 950	950	470	5
10726	N-Nitrosodiphenylamine	86-30-6	< 950	950	470	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 4,700	4,700	1,900	5
10726	Pentachlorophenol	87-86-5	< 4,800	4,800	950	5
10726	Phenanthrene	85-01-8	4,100	480	95	5
10726	Phenol	108-95-2	< 950	950	470	5
10726	Pyrene	129-00-0	10,000	480	95	5
10726	2,4,5-Trichlorophenol	95-95-4	< 950	950	470	5
10726	2,4,6-Trichlorophenol	88-06-2	< 950	950	470	5
Reporting limits were raised due to interference from the sample matrix.						
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 130	130	44	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 130	130	44	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 330	330	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 330	330	110	1
13413	3,5-Dinitroaniline	618-87-1	< 130	130	44	1
13413	1,3-Dinitrobenzene	99-65-0	< 130	130	44	1
13413	2,4-Dinitrotoluene	121-14-2	< 130	130	44	1
13413	2,6-Dinitrotoluene	606-20-2	< 130	130	44	1
13413	HMX	2691-41-0	< 330	330	110	1
13413	Nitrobenzene	98-95-3	< 330	330	110	1
13413	Nitroglycerin	55-63-0	< 2,600	2,600	880	1
13413	2-Nitrotoluene	88-72-2	< 130	130	44	1
13413	3-Nitrotoluene	99-08-1	< 130	130	44	1
13413	4-Nitrotoluene	99-99-0	< 130	130	44	1
13413	PETN	78-11-5	< 2,600	2,600	880	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262934
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS60

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	RDX	121-82-4	< 130	130	44	1
13413	Tetryl	479-45-8	< 330	330	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 130	130	44	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 130	130	44	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 1,900	1,900	410	100
10885	PCB-1221	11104-28-2	< 1,900	1,900	530	100
10885	PCB-1232	11141-16-5	< 1,900	1,900	910	100
10885	PCB-1242	53469-21-9	< 1,900	1,900	380	100
10885	PCB-1248	12672-29-6	22,000	1,900	380	100
10885	PCB-1254	11097-69-1	20,000	1,900	380	100
10885	PCB-1260	11096-82-5	< 1,900	1,900	560	100
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	14,600	200	38.2	5
06946	Barium	7440-39-3	457	0.998	0.120	1
01650	Calcium	7440-70-2	19,500	39.9	3.32	1
06952	Cobalt	7440-48-4	26.4	4.99	0.404	5
06953	Copper	7440-50-8	956	9.98	1.60	5
01654	Iron	7439-89-6	131,000	200	16.6	5
06955	Lead	7439-92-1	922	15.0	2.05	5
01657	Magnesium	7439-95-4	3,520	20.0	1.67	1
06958	Manganese	7439-96-5	3,720	4.99	0.599	5
06961	Nickel	7440-02-0	295	2.00	0.230	1
01662	Potassium	7440-09-7	1,880	99.8	16.8	1
01667	Sodium	7440-23-5	607	200	16.7	1
06970	Titanium	7440-32-6	586	9.98	1.85	5
06971	Vanadium	7440-62-2	58.2	4.99	1.15	5
06972	Zinc	7440-66-6	2,650	20.0	3.84	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	27.0	0.399	0.0659	2
06125	Arsenic	7440-38-2	16.3	0.799	0.150	2
06127	Beryllium	7440-41-7	0.348	0.200	0.0142	2
06128	Cadmium	7440-43-9	9.31	0.200	0.0459	2
06131	Chromium	7440-47-3	566	3.99	0.499	10
06141	Selenium	7782-49-2	< 0.799	0.799	0.0998	2
06142	Silver	7440-22-4	10.3	0.200	0.0200	2
06145	Thallium	7440-28-0	< 0.998	0.998	0.150	10
	Reporting limits were raised for metals due to interference from the sample matrix.					
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262934
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS60

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 7471B**		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.90	1.13	0.0567	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/10/2016 01:59	Christopher G Torres	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016 17:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016 17:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016 17:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016 05:40	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016 08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016 17:58	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016 07:06	Jessica L Miller	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016 21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016 14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016 14:08	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016 10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016 09:43	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016 09:43	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016 16:58	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016 09:43	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-0-2-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262934
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS60

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016 09:43	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016 09:43	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016 09:43	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016 10:21	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016 07:18	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016 07:18	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016 07:18	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016 14:09	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 14:07	Deborah A Krady	10
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 07:18	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016 14:09	Deborah A Krady	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/09/2016 14:07	Deborah A Krady	10
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:30	Damary Valentin	5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262935
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 1,500	1,500	520	63.01
11995	Benzene	71-43-2	< 370	370	37	63.01
11995	Bromodichloromethane	75-27-4	< 370	370	74	63.01
11995	Bromoform	75-25-2	< 370	370	74	63.01
11995	Bromomethane	74-83-9	< 370	370	150	63.01
11995	2-Butanone	78-93-3	< 740	740	300	63.01
11995	Carbon Disulfide	75-15-0	< 370	370	74	63.01
11995	Carbon Tetrachloride	56-23-5	< 370	370	74	63.01
11995	Chlorobenzene	108-90-7	< 370	370	74	63.01
11995	Chloroethane	75-00-3	640	370	150	63.01
11995	Chloroform	67-66-3	< 370	370	74	63.01
11995	Chloromethane	74-87-3	< 370	370	150	63.01
11995	Cyclohexane	110-82-7	< 370	370	74	63.01
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 370	370	150	63.01
11995	Dibromochloromethane	124-48-1	< 370	370	74	63.01
11995	1,2-Dibromoethane	106-93-4	< 370	370	74	63.01
11995	1,2-Dichlorobenzene	95-50-1	< 370	370	74	63.01
11995	1,3-Dichlorobenzene	541-73-1	< 370	370	74	63.01
11995	1,4-Dichlorobenzene	106-46-7	< 370	370	74	63.01
11995	Dichlorodifluoromethane	75-71-8	< 370	370	150	63.01
11995	1,1-Dichloroethane	75-34-3	< 370	370	74	63.01
11995	1,2-Dichloroethane	107-06-2	< 370	370	74	63.01
11995	1,1-Dichloroethene	75-35-4	< 370	370	74	63.01
11995	cis-1,2-Dichloroethene	156-59-2	< 370	370	74	63.01
11995	trans-1,2-Dichloroethene	156-60-5	< 370	370	74	63.01
11995	1,2-Dichloropropane	78-87-5	< 370	370	74	63.01
11995	cis-1,3-Dichloropropene	10061-01-5	< 370	370	74	63.01
11995	trans-1,3-Dichloropropene	10061-02-6	< 370	370	74	63.01
11995	Ethylbenzene	100-41-4	< 370	370	74	63.01
11995	Freon 113	76-13-1	< 740	740	150	63.01
11995	2-Hexanone	591-78-6	< 740	740	220	63.01
11995	Isopropylbenzene	98-82-8	< 370	370	74	63.01
11995	Methyl Acetate	79-20-9	< 370	370	150	63.01
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 370	370	37	63.01
11995	4-Methyl-2-pentanone	108-10-1	< 740	740	220	63.01
11995	Methylcyclohexane	108-87-2	< 370	370	74	63.01
11995	Methylene Chloride	75-09-2	< 370	370	150	63.01
11995	Styrene	100-42-5	< 370	370	74	63.01
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 370	370	74	63.01
11995	Tetrachloroethene	127-18-4	< 370	370	74	63.01
11995	Toluene	108-88-3	< 370	370	74	63.01
11995	1,2,4-Trichlorobenzene	120-82-1	< 370	370	74	63.01
11995	1,1,1-Trichloroethane	71-55-6	< 370	370	74	63.01
11995	1,1,2-Trichloroethane	79-00-5	< 370	370	74	63.01
11995	Trichloroethene	79-01-6	< 370	370	74	63.01
11995	Trichlorofluoromethane	75-69-4	< 370	370	150	63.01
11995	Vinyl Chloride	75-01-4	< 370	370	74	63.01
11995	Xylene (Total)	1330-20-7	< 370	370	74	63.01

Reporting limits were raised due to interference from the sample matrix.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262935
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS62

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 500	500	97	5
10726	Acenaphthylene	208-96-8	< 500	500	97	5
10726	Acetophenone	98-86-2	< 970	970	490	5
10726	Anthracene	120-12-7	550	500	97	5
10726	Atrazine	1912-24-9	< 4,900	4,900	970	5
10726	Benzaldehyde	100-52-7	< 4,900	4,900	1,900	5
10726	Benzo(a)anthracene	56-55-3	1,000	500	97	5
10726	Benzo(a)pyrene	50-32-8	1,500	500	97	5
10726	Benzo(b)fluoranthene	205-99-2	1,800	500	97	5
10726	Benzo(g,h,i)perylene	191-24-2	1,500	500	97	5
10726	Benzo(k)fluoranthene	207-08-9	1,100	500	97	5
10726	1,1'-Biphenyl	92-52-4	< 970	970	490	5
10726	4-Bromophenyl-phenylether	101-55-3	< 970	970	490	5
10726	Butylbenzylphthalate	85-68-7	< 4,900	4,900	1,900	5
10726	Di-n-butylphthalate	84-74-2	< 4,900	4,900	1,900	5
10726	Caprolactam	105-60-2	< 4,900	4,900	970	5
10726	Carbazole	86-74-8	< 970	970	490	5
10726	4-Chloro-3-methylphenol	59-50-7	< 970	970	490	5
10726	4-Chloroaniline	106-47-8	< 1,900	1,900	970	5
10726	bis(2-Chloroethoxy)methane	111-91-1	< 970	970	490	5
10726	bis(2-Chloroethyl)ether	111-44-4	< 970	970	490	5
10726	2-Chloronaphthalene	91-58-7	< 960	960	190	5
10726	2-Chlorophenol	95-57-8	< 970	970	490	5
10726	4-Chlorophenyl-phenylether	7005-72-3	< 970	970	490	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 970	970	490	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,600	500	97	5
10726	Dibenz(a,h)anthracene	53-70-3	< 500	500	97	5
10726	Dibenzofuran	132-64-9	< 970	970	490	5
10726	3,3'-Dichlorobenzidine	91-94-1	< 9,700	9,700	2,900	5
10726	2,4-Dichlorophenol	120-83-2	< 970	970	490	5
10726	Diethylphthalate	84-66-2	< 4,900	4,900	1,900	5
10726	2,4-Dimethylphenol	105-67-9	< 970	970	490	5
10726	Dimethylphthalate	131-11-3	< 4,900	4,900	1,900	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 15,000	15,000	4,900	5
10726	2,4-Dinitrophenol	51-28-5	< 29,000	29,000	8,700	5
10726	2,4-Dinitrotoluene	121-14-2	< 4,900	4,900	1,900	5
10726	2,6-Dinitrotoluene	606-20-2	< 970	970	490	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	27,000	5,000	1,900	5
10726	Fluoranthene	206-44-0	2,300	500	97	5
10726	Fluorene	86-73-7	< 500	500	97	5
10726	Hexachlorobenzene	118-74-1	< 500	500	97	5
10726	Hexachlorobutadiene	87-68-3	< 970	970	490	5
10726	Hexachlorocyclopentadiene	77-47-4	< 15,000	15,000	4,900	5

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262935
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Hexachloroethane	67-72-1	< 4,900	4,900	970	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,400	500	97	5
10726	Isophorone	78-59-1	< 970	970	490	5
10726	2-Methylnaphthalene	91-57-6	1,700	500	97	5
10726	2-Methylphenol	95-48-7	< 970	970	490	5
10726	4-Methylphenol	106-44-5	< 970	970	490	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,300	500	97	5
10726	2-Nitroaniline	88-74-4	< 970	970	490	5
10726	3-Nitroaniline	99-09-2	< 4,900	4,900	1,900	5
10726	4-Nitroaniline	100-01-6	< 4,900	4,900	1,900	5
10726	Nitrobenzene	98-95-3	< 970	970	490	5
10726	2-Nitrophenol	88-75-5	< 970	970	490	5
10726	4-Nitrophenol	100-02-7	< 15,000	15,000	4,900	5
10726	N-Nitroso-di-n-propylamine	621-64-7	< 970	970	490	5
10726	N-Nitrosodiphenylamine	86-30-6	< 970	970	490	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 4,900	4,900	1,900	5
10726	Pentachlorophenol	87-86-5	< 5,000	5,000	970	5
10726	Phenanthrene	85-01-8	1,500	500	97	5
10726	Phenol	108-95-2	< 970	970	490	5
10726	Pyrene	129-00-0	2,500	500	97	5
10726	2,4,5-Trichlorophenol	95-95-4	< 970	970	490	5
10726	2,4,6-Trichlorophenol	88-06-2	< 970	970	490	5
	Reporting limits were raised due to interference from the sample matrix.					
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 140	140	45	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 140	140	45	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 340	340	110	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 340	340	110	1
13413	3,5-Dinitroaniline	618-87-1	< 140	140	45	1
13413	1,3-Dinitrobenzene	99-65-0	< 140	140	45	1
13413	2,4-Dinitrotoluene	121-14-2	< 140	140	45	1
13413	2,6-Dinitrotoluene	606-20-2	< 140	140	45	1
13413	HMX	2691-41-0	< 340	340	110	1
13413	Nitrobenzene	98-95-3	< 340	340	110	1
13413	Nitroglycerin	55-63-0	< 2,700	2,700	910	1
13413	2-Nitrotoluene	88-72-2	< 140	140	45	1
13413	3-Nitrotoluene	99-08-1	< 140	140	45	1
13413	4-Nitrotoluene	99-99-0	< 140	140	45	1
13413	PETN	78-11-5	< 2,700	2,700	910	1
13413	RDX	121-82-4	< 140	140	45	1
13413	Tetryl	479-45-8	< 340	340	110	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 140	140	45	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 140	140	45	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262935
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 990	990	210	50
10885	PCB-1221	11104-28-2	< 990	990	270	50
10885	PCB-1232	11141-16-5	< 990	990	470	50
10885	PCB-1242	53469-21-9	< 990	990	190	50
10885	PCB-1248	12672-29-6	23,000	990	190	50
10885	PCB-1254	11097-69-1	11,000	990	190	50
10885	PCB-1260	11096-82-5	< 990	990	290	50
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 12	12	5.9	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	11,800	197	37.7	5
06946	Barium	7440-39-3	293	0.985	0.118	1
01650	Calcium	7440-70-2	19,200	39.4	3.28	1
06952	Cobalt	7440-48-4	16.5	4.93	0.399	5
06953	Copper	7440-50-8	786	9.85	1.58	5
01654	Iron	7439-89-6	139,000	394	32.8	10
06955	Lead	7439-92-1	926	14.8	2.02	5
01657	Magnesium	7439-95-4	4,310	19.7	1.65	1
06958	Manganese	7439-96-5	1,100	0.985	0.118	1
06961	Nickel	7440-02-0	163	1.97	0.227	1
01662	Potassium	7440-09-7	2,860	98.5	16.6	1
01667	Sodium	7440-23-5	465	197	16.5	1
06970	Titanium	7440-32-6	744	9.85	1.82	5
06971	Vanadium	7440-62-2	41.1	4.93	1.13	5
06972	Zinc	7440-66-6	2,450	19.7	3.79	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	11.6	0.394	0.0650	2
06125	Arsenic	7440-38-2	18.4	0.788	0.148	2
06127	Beryllium	7440-41-7	0.370	0.197	0.0140	2
06128	Cadmium	7440-43-9	7.06	0.197	0.0453	2
06131	Chromium	7440-47-3	284	0.788	0.0985	2
06141	Selenium	7782-49-2	1.64	0.788	0.0985	2
06142	Silver	7440-22-4	0.941	0.197	0.0197	2
06145	Thallium	7440-28-0	< 0.197	0.197	0.0296	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	1.78	1.11	0.0553	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262935
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS62

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R160621AA	03/02/2016	08:53	Anita M Dale	63.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	17:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	17:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	17:40	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	06:03	Ankitaben A Patel	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	18:35	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	07:17	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	14:26	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	10:25	Katlin N Cataldi	5
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:47	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:47	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	10:25	Katlin N Cataldi	5
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	17:01	Suzanne M Will	5
01654	Iron	SW-846 6010C	1	160630637002	03/09/2016	03:35	Matthew Machtinger	10
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	10:25	Katlin N Cataldi	5
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:47	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:47	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:47	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:47	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:47	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	10:25	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	10:25	Katlin N Cataldi	5
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	10:25	Katlin N Cataldi	5
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	07:21	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	07:21	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	07:21	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	14:10	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	14:10	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	07:21	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016	14:10	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-2-4-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262935
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 17:40 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 07:21	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:32	Damary Valentin	5
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262936
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:10 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	25	20	7	0.96
11995	Benzene	71-43-2	< 5	5	0.5	0.96
11995	Bromodichloromethane	75-27-4	< 5	5	1	0.96
11995	Bromoform	75-25-2	< 5	5	1	0.96
11995	Bromomethane	74-83-9	< 5	5	2	0.96
11995	2-Butanone	78-93-3	< 10	10	4	0.96
11995	Carbon Disulfide	75-15-0	< 5	5	1	0.96
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	0.96
11995	Chlorobenzene	108-90-7	< 5	5	1	0.96
11995	Chloroethane	75-00-3	< 5	5	2	0.96
11995	Chloroform	67-66-3	< 5	5	1	0.96
11995	Chloromethane	74-87-3	< 5	5	2	0.96
11995	Cyclohexane	110-82-7	< 5	5	1	0.96
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	0.96
11995	Dibromochloromethane	124-48-1	< 5	5	1	0.96
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	0.96
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	0.96
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	0.96
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	0.96
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	0.96
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	0.96
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	0.96
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	0.96
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	0.96
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	0.96
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	0.96
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	0.96
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	0.96
11995	Ethylbenzene	100-41-4	< 5	5	1	0.96
11995	Freon 113	76-13-1	< 10	10	2	0.96
11995	2-Hexanone	591-78-6	< 10	10	3	0.96
11995	Isopropylbenzene	98-82-8	< 5	5	1	0.96
11995	Methyl Acetate	79-20-9	< 5	5	2	0.96
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	0.96
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	0.96
11995	Methylcyclohexane	108-87-2	< 5	5	1	0.96
11995	Methylene Chloride	75-09-2	< 5	5	2	0.96
11995	Styrene	100-42-5	< 5	5	1	0.96
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	0.96
11995	Tetrachloroethene	127-18-4	< 5	5	1	0.96
11995	Toluene	108-88-3	< 5	5	1	0.96
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	0.96
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	0.96
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	0.96
11995	Trichloroethene	79-01-6	< 5	5	1	0.96
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	0.96
11995	Vinyl Chloride	75-01-4	< 5	5	1	0.96
11995	Xylene (Total)	1330-20-7	< 5	5	1	0.96
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 18	18	4	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262936
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:10 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 18	18	4	1
10726	Acetophenone	98-86-2	< 35	35	18	1
10726	Anthracene	120-12-7	< 18	18	4	1
10726	Atrazine	1912-24-9	< 180	180	35	1
10726	Benzaldehyde	100-52-7	< 180	180	70	1
10726	Benzo(a)anthracene	56-55-3	< 18	18	4	1
10726	Benzo(a)pyrene	50-32-8	< 18	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	< 18	18	4	1
10726	Benzo(g,h,i)perylene	191-24-2	< 18	18	4	1
10726	Benzo(k)fluoranthene	207-08-9	< 18	18	4	1
10726	1,1'-Biphenyl	92-52-4	< 35	35	18	1
10726	4-Bromophenyl-phenylether	101-55-3	< 35	35	18	1
10726	Butylbenzylphthalate	85-68-7	< 180	180	70	1
10726	Di-n-butylphthalate	84-74-2	< 180	180	70	1
10726	Caprolactam	105-60-2	< 180	180	35	1
10726	Carbazole	86-74-8	< 35	35	18	1
10726	4-Chloro-3-methylphenol	59-50-7	< 35	35	18	1
10726	4-Chloroaniline	106-47-8	< 70	70	35	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 35	35	18	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 35	35	18	1
10726	2-Chloronaphthalene	91-58-7	< 35	35	7	1
10726	2-Chlorophenol	95-57-8	< 35	35	18	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 35	35	18	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 35	35	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 18	18	4	1
10726	Dibenz(a,h)anthracene	53-70-3	< 18	18	4	1
10726	Dibenzofuran	132-64-9	< 35	35	18	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 350	350	110	1
10726	2,4-Dichlorophenol	120-83-2	< 35	35	18	1
10726	Diethylphthalate	84-66-2	< 180	180	70	1
10726	2,4-Dimethylphenol	105-67-9	< 35	35	18	1
10726	Dimethylphthalate	131-11-3	< 180	180	70	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 530	530	180	1
10726	2,4-Dinitrophenol	51-28-5	< 1,100	1,100	320	1
10726	2,4-Dinitrotoluene	121-14-2	< 180	180	70	1
10726	2,6-Dinitrotoluene	606-20-2	< 35	35	18	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	70	1
10726	Fluoranthene	206-44-0	< 18	18	4	1
10726	Fluorene	86-73-7	< 18	18	4	1
10726	Hexachlorobenzene	118-74-1	< 18	18	4	1
10726	Hexachlorobutadiene	87-68-3	< 35	35	18	1
10726	Hexachlorocyclopentadiene	77-47-4	< 530	530	180	1
10726	Hexachloroethane	67-72-1	< 180	180	35	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 18	18	4	1
10726	Isophorone	78-59-1	< 35	35	18	1
10726	2-Methylnaphthalene	91-57-6	< 18	18	4	1
10726	2-Methylphenol	95-48-7	< 35	35	18	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262936
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:10 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 35	35	18	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 18	18	4	1
10726	2-Nitroaniline	88-74-4	< 35	35	18	1
10726	3-Nitroaniline	99-09-2	< 180	180	70	1
10726	4-Nitroaniline	100-01-6	< 180	180	70	1
10726	Nitrobenzene	98-95-3	< 35	35	18	1
10726	2-Nitrophenol	88-75-5	< 35	35	18	1
10726	4-Nitrophenol	100-02-7	< 530	530	180	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 35	35	18	1
10726	N-Nitrosodiphenylamine	86-30-6	< 35	35	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 180	180	70	1
10726	Pentachlorophenol	87-86-5	< 180	180	35	1
10726	Phenanthrene	85-01-8	< 18	18	4	1
10726	Phenol	108-95-2	< 35	35	18	1
10726	Pyrene	129-00-0	< 18	18	4	1
10726	2,4,5-Trichlorophenol	95-95-4	< 35	35	18	1
10726	2,4,6-Trichlorophenol	88-06-2	< 35	35	18	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	42	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	42	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 310	310	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 310	310	100	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	42	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	42	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	42	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	42	1
13413	HMX	2691-41-0	< 310	310	100	1
13413	Nitrobenzene	98-95-3	< 310	310	100	1
13413	Nitroglycerin	55-63-0	< 2,500	2,500	830	1
13413	2-Nitrotoluene	88-72-2	< 120	120	42	1
13413	3-Nitrotoluene	99-08-1	< 120	120	42	1
13413	4-Nitrotoluene	99-99-0	< 120	120	42	1
13413	PETN	78-11-5	< 2,500	2,500	830	1
13413	RDX	121-82-4	< 120	120	42	1
13413	Tetryl	479-45-8	< 310	310	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	42	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	42	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.8	1
10885	PCB-1221	11104-28-2	< 18	18	4.8	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262936
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:10 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS66

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 18	18	8.4	1
10885	PCB-1242	53469-21-9	< 18	18	3.5	1
10885	PCB-1248	12672-29-6	< 18	18	3.5	1
10885	PCB-1254	11097-69-1	< 18	18	3.5	1
10885	PCB-1260	11096-82-5	< 18	18	5.1	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 11	11	5.3	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	12,500	34.2	6.56	1
06946	Barium	7440-39-3	45.0	0.856	0.103	1
01650	Calcium	7440-70-2	398	34.2	2.85	1
06952	Cobalt	7440-48-4	4.14	0.856	0.0693	1
06953	Copper	7440-50-8	3.64	1.71	0.274	1
01654	Iron	7439-89-6	12,400	34.2	2.85	1
06955	Lead	7439-92-1	4.58	2.57	0.351	1
01657	Magnesium	7439-95-4	1,470	17.1	1.43	1
06958	Manganese	7439-96-5	164	0.856	0.103	1
06961	Nickel	7440-02-0	4.70	1.71	0.197	1
01662	Potassium	7440-09-7	1,250	85.6	14.4	1
01667	Sodium	7440-23-5	< 171	171	14.3	1
06970	Titanium	7440-32-6	596	1.71	0.317	1
06971	Vanadium	7440-62-2	25.0	0.856	0.197	1
06972	Zinc	7440-66-6	22.0	3.42	0.659	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.342	0.342	0.0565	2
06125	Arsenic	7440-38-2	1.30	0.685	0.128	2
06127	Beryllium	7440-41-7	0.480	0.171	0.0122	2
06128	Cadmium	7440-43-9	< 0.171	0.171	0.0394	2
06131	Chromium	7440-47-3	11.8	0.685	0.0856	2
06141	Selenium	7782-49-2	< 0.685	0.685	0.0856	2
06142	Silver	7440-22-4	< 0.171	0.171	0.0171	2
06145	Thallium	7440-28-0	< 0.171	0.171	0.0257	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.203	0.203	0.0102	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: SBO-06-6-8-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262936
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:10 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS66

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016	23:43	Christopher G Torres	0.96
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	18:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	18:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	18:10	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	06:26	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	19:11	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	08:03	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	14:44	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	16:28	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	09:50	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	07:24	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	07:24	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	07:24	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016	07:24	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	14:12	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	07:24	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	07:24	Tara L Snyder	2

*=This limit was used in the evaluation of the final result

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Analysis Report

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LL Sample # SW 8262936
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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 07:24	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 15:26	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

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Sample Description: SBO-06-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262937
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	< 21	21	7	1.05
11995	Benzene	71-43-2	< 5	5	0.5	1.05
11995	Bromodichloromethane	75-27-4	< 5	5	1	1.05
11995	Bromoform	75-25-2	< 5	5	1	1.05
11995	Bromomethane	74-83-9	< 5	5	2	1.05
11995	2-Butanone	78-93-3	< 11	11	4	1.05
11995	Carbon Disulfide	75-15-0	< 5	5	1	1.05
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1.05
11995	Chlorobenzene	108-90-7	< 5	5	1	1.05
11995	Chloroethane	75-00-3	< 5	5	2	1.05
11995	Chloroform	67-66-3	< 5	5	1	1.05
11995	Chloromethane	74-87-3	< 5	5	2	1.05
11995	Cyclohexane	110-82-7	< 5	5	1	1.05
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1.05
11995	Dibromochloromethane	124-48-1	< 5	5	1	1.05
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1.05
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1.05
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1.05
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1.05
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1.05
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1.05
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1.05
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1.05
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1.05
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1.05
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1.05
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1.05
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1.05
11995	Ethylbenzene	100-41-4	< 5	5	1	1.05
11995	Freon 113	76-13-1	< 11	11	2	1.05
11995	2-Hexanone	591-78-6	< 11	11	3	1.05
11995	Isopropylbenzene	98-82-8	< 5	5	1	1.05
11995	Methyl Acetate	79-20-9	< 5	5	2	1.05
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1.05
11995	4-Methyl-2-pentanone	108-10-1	< 11	11	3	1.05
11995	Methylcyclohexane	108-87-2	< 5	5	1	1.05
11995	Methylene Chloride	75-09-2	< 5	5	2	1.05
11995	Styrene	100-42-5	< 5	5	1	1.05
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1.05
11995	Tetrachloroethene	127-18-4	< 5	5	1	1.05
11995	Toluene	108-88-3	< 5	5	1	1.05
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1.05
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1.05
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1.05
11995	Trichloroethene	79-01-6	< 5	5	1	1.05
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1.05
11995	Vinyl Chloride	75-01-4	< 5	5	1	1.05
11995	Xylene (Total)	1330-20-7	< 5	5	1	1.05
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	< 17	17	3	1

*=This limit was used in the evaluation of the final result

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	< 17	17	3	1
10726	Acetophenone	98-86-2	< 34	34	17	1
10726	Anthracene	120-12-7	< 17	17	3	1
10726	Atrazine	1912-24-9	< 170	170	34	1
10726	Benzaldehyde	100-52-7	< 170	170	67	1
10726	Benzo(a)anthracene	56-55-3	< 17	17	3	1
10726	Benzo(a)pyrene	50-32-8	< 17	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	< 17	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	< 17	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	< 17	17	3	1
10726	1,1'-Biphenyl	92-52-4	< 34	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	< 34	34	17	1
10726	Butylbenzylphthalate	85-68-7	< 170	170	67	1
10726	Di-n-butylphthalate	84-74-2	< 170	170	67	1
10726	Caprolactam	105-60-2	< 170	170	34	1
10726	Carbazole	86-74-8	< 34	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	< 34	34	17	1
10726	4-Chloroaniline	106-47-8	< 67	67	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	< 34	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	< 34	34	17	1
10726	2-Chloronaphthalene	91-58-7	< 33	33	7	1
10726	2-Chlorophenol	95-57-8	< 34	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	< 34	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	< 34	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	< 17	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	< 17	17	3	1
10726	Dibenzofuran	132-64-9	< 34	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	< 340	340	100	1
10726	2,4-Dichlorophenol	120-83-2	< 34	34	17	1
10726	Diethylphthalate	84-66-2	< 170	170	67	1
10726	2,4-Dimethylphenol	105-67-9	< 34	34	17	1
10726	Dimethylphthalate	131-11-3	< 170	170	67	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	< 500	500	170	1
10726	2,4-Dinitrophenol	51-28-5	< 1,000	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	< 170	170	67	1
10726	2,6-Dinitrotoluene	606-20-2	< 34	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 170	170	67	1
10726	Fluoranthene	206-44-0	< 17	17	3	1
10726	Fluorene	86-73-7	< 17	17	3	1
10726	Hexachlorobenzene	118-74-1	< 17	17	3	1
10726	Hexachlorobutadiene	87-68-3	< 34	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	< 500	500	170	1
10726	Hexachloroethane	67-72-1	< 170	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	< 17	17	3	1
10726	Isophorone	78-59-1	< 34	34	17	1
10726	2-Methylnaphthalene	91-57-6	< 17	17	3	1
10726	2-Methylphenol	95-48-7	< 34	34	17	1

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	< 34	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	< 17	17	3	1
10726	2-Nitroaniline	88-74-4	< 34	34	17	1
10726	3-Nitroaniline	99-09-2	< 170	170	67	1
10726	4-Nitroaniline	100-01-6	< 170	170	67	1
10726	Nitrobenzene	98-95-3	< 34	34	17	1
10726	2-Nitrophenol	88-75-5	< 34	34	17	1
10726	4-Nitrophenol	100-02-7	< 500	500	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	< 34	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	< 34	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	< 170	170	67	1
10726	Pentachlorophenol	87-86-5	< 170	170	34	1
10726	Phenanthrene	85-01-8	< 17	17	3	1
10726	Phenol	108-95-2	< 34	34	17	1
10726	Pyrene	129-00-0	< 17	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	< 34	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	< 34	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	< 120	120	40	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	< 120	120	40	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 300	300	99	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 300	300	99	1
13413	3,5-Dinitroaniline	618-87-1	< 120	120	40	1
13413	1,3-Dinitrobenzene	99-65-0	< 120	120	40	1
13413	2,4-Dinitrotoluene	121-14-2	< 120	120	40	1
13413	2,6-Dinitrotoluene	606-20-2	< 120	120	40	1
13413	HMX	2691-41-0	< 300	300	99	1
13413	Nitrobenzene	98-95-3	< 300	300	99	1
13413	Nitroglycerin	55-63-0	< 2,400	2,400	790	1
13413	2-Nitrotoluene	88-72-2	< 120	120	40	1
13413	3-Nitrotoluene	99-08-1	< 120	120	40	1
13413	4-Nitrotoluene	99-99-0	< 120	120	40	1
13413	PETN	78-11-5	< 2,400	2,400	790	1
13413	RDX	121-82-4	< 120	120	40	1
13413	Tetryl	479-45-8	< 300	300	99	1
13413	1,3,5-Trinitrobenzene	99-35-4	< 120	120	40	1
13413	2,4,6-Trinitrotoluene	118-96-7	< 120	120	40	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.6	1
10885	PCB-1221	11104-28-2	< 17	17	4.6	1

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Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 17	17	8.0	1
10885	PCB-1242	53469-21-9	< 17	17	3.3	1
10885	PCB-1248	12672-29-6	< 17	17	3.3	1
10885	PCB-1254	11097-69-1	< 17	17	3.3	1
10885	PCB-1260	11096-82-5	< 17	17	4.9	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	< 10	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	4,350	33.5	6.41	1
06946	Barium	7440-39-3	18.9	0.837	0.100	1
01650	Calcium	7440-70-2	202	33.5	2.79	1
06952	Cobalt	7440-48-4	1.72	0.837	0.0678	1
06953	Copper	7440-50-8	3.53	1.67	0.268	1
01654	Iron	7439-89-6	5,500	33.5	2.79	1
06955	Lead	7439-92-1	< 2.51	2.51	0.343	1
01657	Magnesium	7439-95-4	501	16.7	1.40	1
06958	Manganese	7439-96-5	108	0.837	0.100	1
06961	Nickel	7440-02-0	1.84	1.67	0.193	1
01662	Potassium	7440-09-7	455	83.7	14.1	1
01667	Sodium	7440-23-5	< 167	167	14.0	1
06970	Titanium	7440-32-6	231	1.67	0.310	1
06971	Vanadium	7440-62-2	9.79	0.837	0.193	1
06972	Zinc	7440-66-6	10.9	3.35	0.645	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.335	0.335	0.0553	2
06125	Arsenic	7440-38-2	0.677	0.670	0.126	2
06127	Beryllium	7440-41-7	0.176	0.167	0.0119	2
06128	Cadmium	7440-43-9	< 0.167	0.167	0.0385	2
06131	Chromium	7440-47-3	5.76	0.670	0.0837	2
06141	Selenium	7782-49-2	< 0.670	0.670	0.0837	2
06142	Silver	7440-22-4	< 0.167	0.167	0.0167	2
06145	Thallium	7440-28-0	< 0.167	0.167	0.0251	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.195	0.195	0.0098	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	1.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262937
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS61

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016	20:43	Christopher G Torres	1.05
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	18:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	18:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	18:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	02:38	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	21:02	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	08:26	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	15:02	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	14:53	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	08:19	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:01	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:01	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:01	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016	06:01	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:19	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:01	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016	06:01	Tara L Snyder	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262937
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:01	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 14:49	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262938
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	160	20	7	0.98
11995	Benzene	71-43-2	23	5	0.5	0.98
11995	Bromodichloromethane	75-27-4	21	5	1	0.98
11995	Bromoform	75-25-2	20	5	1	0.98
11995	Bromomethane	74-83-9	20	5	2	0.98
11995	2-Butanone	78-93-3	160	10	4	0.98
11995	Carbon Disulfide	75-15-0	21	5	1	0.98
11995	Carbon Tetrachloride	56-23-5	23	5	1	0.98
11995	Chlorobenzene	108-90-7	21	5	1	0.98
11995	Chloroethane	75-00-3	20	5	2	0.98
11995	Chloroform	67-66-3	22	5	1	0.98
11995	Chloromethane	74-87-3	19	5	2	0.98
11995	Cyclohexane	110-82-7	24	5	1	0.98
11995	1,2-Dibromo-3-chloropropane	96-12-8	21	5	2	0.98
11995	Dibromochloromethane	124-48-1	21	5	1	0.98
11995	1,2-Dibromoethane	106-93-4	22	5	1	0.98
11995	1,2-Dichlorobenzene	95-50-1	21	5	1	0.98
11995	1,3-Dichlorobenzene	541-73-1	21	5	1	0.98
11995	1,4-Dichlorobenzene	106-46-7	20	5	1	0.98
11995	Dichlorodifluoromethane	75-71-8	18	5	2	0.98
11995	1,1-Dichloroethane	75-34-3	22	5	1	0.98
11995	1,2-Dichloroethane	107-06-2	21	5	1	0.98
11995	1,1-Dichloroethene	75-35-4	23	5	1	0.98
11995	cis-1,2-Dichloroethene	156-59-2	24	5	1	0.98
11995	trans-1,2-Dichloroethene	156-60-5	23	5	1	0.98
11995	1,2-Dichloropropane	78-87-5	23	5	1	0.98
11995	cis-1,3-Dichloropropene	10061-01-5	21	5	1	0.98
11995	trans-1,3-Dichloropropene	10061-02-6	21	5	1	0.98
11995	Ethylbenzene	100-41-4	22	5	1	0.98
11995	Freon 113	76-13-1	24	10	2	0.98
11995	2-Hexanone	591-78-6	110	10	3	0.98
11995	Isopropylbenzene	98-82-8	24	5	1	0.98
11995	Methyl Acetate	79-20-9	22	5	2	0.98
11995	Methyl Tertiary Butyl Ether	1634-04-4	22	5	0.5	0.98
11995	4-Methyl-2-pentanone	108-10-1	110	10	3	0.98
11995	Methylcyclohexane	108-87-2	24	5	1	0.98
11995	Methylene Chloride	75-09-2	21	5	2	0.98
11995	Styrene	100-42-5	21	5	1	0.98
11995	1,1,2,2-Tetrachloroethane	79-34-5	22	5	1	0.98
11995	Tetrachloroethene	127-18-4	23	5	1	0.98
11995	Toluene	108-88-3	22	5	1	0.98
11995	1,2,4-Trichlorobenzene	120-82-1	20	5	1	0.98
11995	1,1,1-Trichloroethane	71-55-6	20	5	1	0.98
11995	1,1,2-Trichloroethane	79-00-5	21	5	1	0.98
11995	Trichloroethene	79-01-6	23	5	1	0.98
11995	Trichlorofluoromethane	75-69-4	22	5	2	0.98
11995	Vinyl Chloride	75-01-4	21	5	1	0.98
11995	Xylene (Total)	1330-20-7	67	5	1	0.98
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	1,700	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262938
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	1,700	17	3	1
10726	Acetophenone	98-86-2	1,400	33	17	1
10726	Anthracene	120-12-7	1,600	17	3	1
10726	Atrazine	1912-24-9	1,400	170	33	1
10726	Benzaldehyde	100-52-7	990	170	67	1
10726	Benzo(a)anthracene	56-55-3	1,400	17	3	1
10726	Benzo(a)pyrene	50-32-8	1,500	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	1,600	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	1,700	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	1,600	17	3	1
10726	1,1'-Biphenyl	92-52-4	1,500	33	17	1
10726	4-Bromophenyl-phenylether	101-55-3	1,800	33	17	1
10726	Butylbenzylphthalate	85-68-7	1,700	170	67	1
10726	Di-n-butylphthalate	84-74-2	1,600	170	67	1
10726	Caprolactam	105-60-2	1,500	170	33	1
10726	Carbazole	86-74-8	1,500	33	17	1
10726	4-Chloro-3-methylphenol	59-50-7	1,700	33	17	1
10726	4-Chloroaniline	106-47-8	720	67	33	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,700	33	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,400	33	17	1
10726	2-Chloronaphthalene	91-58-7	1,700	33	7	1
10726	2-Chlorophenol	95-57-8	1,600	33	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,500	33	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	1,400	33	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,500	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	1,700	17	3	1
10726	Dibenzofuran	132-64-9	1,600	33	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	1,400	330	100	1
10726	2,4-Dichlorophenol	120-83-2	1,800	33	17	1
10726	Diethylphthalate	84-66-2	1,600	170	67	1
10726	2,4-Dimethylphenol	105-67-9	1,700	33	17	1
10726	Dimethylphthalate	131-11-3	1,600	170	67	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,400	500	170	1
10726	2,4-Dinitrophenol	51-28-5	1,900	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	1,600	170	67	1
10726	2,6-Dinitrotoluene	606-20-2	1,500	33	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,600	170	67	1
10726	Fluoranthene	206-44-0	1,400	17	3	1
10726	Fluorene	86-73-7	1,600	17	3	1
10726	Hexachlorobenzene	118-74-1	1,900	17	3	1
10726	Hexachlorobutadiene	87-68-3	1,800	33	17	1
10726	Hexachlorocyclopentadiene	77-47-4	3,400	500	170	1
10726	Hexachloroethane	67-72-1	1,600	170	33	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	17	3	1
10726	Isophorone	78-59-1	1,700	33	17	1
10726	2-Methylnaphthalene	91-57-6	1,600	17	3	1
10726	2-Methylphenol	95-48-7	1,600	33	17	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262938
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	1,500	33	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,600	17	3	1
10726	2-Nitroaniline	88-74-4	1,700	33	17	1
10726	3-Nitroaniline	99-09-2	1,500	170	67	1
10726	4-Nitroaniline	100-01-6	1,200	170	67	1
10726	Nitrobenzene	98-95-3	1,800	33	17	1
10726	2-Nitrophenol	88-75-5	1,700	33	17	1
10726	4-Nitrophenol	100-02-7	1,400	500	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,600	33	17	1
10726	N-Nitrosodiphenylamine	86-30-6	1,600	33	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	1,600	170	67	1
10726	Pentachlorophenol	87-86-5	1,700	170	33	1
10726	Phenanthrene	85-01-8	1,500	17	3	1
10726	Phenol	108-95-2	1,500	33	17	1
10726	Pyrene	129-00-0	1,500	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	1,600	33	17	1
10726	2,4,6-Trichlorophenol	88-06-2	1,700	33	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	1,800	120	39	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	1,800	120	39	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 290	290	98	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 290	290	98	1
13413	3,5-Dinitroaniline	618-87-1	1,900	120	39	1
13413	1,3-Dinitrobenzene	99-65-0	1,900	120	39	1
13413	2,4-Dinitrotoluene	121-14-2	1,900	120	39	1
13413	2,6-Dinitrotoluene	606-20-2	1,800	120	39	1
13413	HMX	2691-41-0	1,900	290	98	1
13413	Nitrobenzene	98-95-3	2,100	290	98	1
13413	Nitroglycerin	55-63-0	18,000	2,400	790	1
13413	2-Nitrotoluene	88-72-2	1,800	120	39	1
13413	3-Nitrotoluene	99-08-1	1,800	120	39	1
13413	4-Nitrotoluene	99-99-0	1,800	120	39	1
13413	PETN	78-11-5	19,000	2,400	790	1
13413	RDX	121-82-4	2,100	120	39	1
13413	Tetryl	479-45-8	1,200	290	98	1
13413	1,3,5-Trinitrobenzene	99-35-4	1,800	120	39	1
13413	2,4,6-Trinitrotoluene	118-96-7	1,800	120	39	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	160	17	3.6	1
10885	PCB-1221	11104-28-2	< 17	17	4.6	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262938
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**		**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 17		17	8.1	1
10885	PCB-1242	53469-21-9	< 17		17	3.3	1
10885	PCB-1248	12672-29-6	< 17		17	3.3	1
10885	PCB-1254	11097-69-1	32	P	17	3.3	1
10885	PCB-1260	11096-82-5	210		17	4.9	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	91		10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**		**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	6,460		34.3	6.58	1
06946	Barium	7440-39-3	192		0.859	0.103	1
01650	Calcium	7440-70-2	650		34.3	2.86	1
06952	Cobalt	7440-48-4	43.6		0.859	0.0695	1
06953	Copper	7440-50-8	24.4		1.72	0.275	1
01654	Iron	7439-89-6	5,380		34.3	2.86	1
06955	Lead	7439-92-1	14.6		2.58	0.352	1
01657	Magnesium	7439-95-4	754		17.2	1.43	1
06958	Manganese	7439-96-5	147		0.859	0.103	1
06961	Nickel	7440-02-0	45.2		1.72	0.197	1
01662	Potassium	7440-09-7	1,400		85.9	14.4	1
01667	Sodium	7440-23-5	914		172	14.3	1
06970	Titanium	7440-32-6	358		1.72	0.318	1
06971	Vanadium	7440-62-2	54.7		0.859	0.197	1
06972	Zinc	7440-66-6	52.5		3.43	0.661	1
	SW-846 6020A		**mg/kg**		**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.793		0.343	0.0567	2
06125	Arsenic	7440-38-2	2.38		0.687	0.129	2
06127	Beryllium	7440-41-7	0.887		0.172	0.0122	2
06128	Cadmium	7440-43-9	0.923		0.172	0.0395	2
06131	Chromium	7440-47-3	14.2		0.687	0.0859	2
06141	Selenium	7782-49-2	1.82		0.687	0.0859	2
06142	Silver	7440-22-4	8.91		0.172	0.0172	2
06145	Thallium	7440-28-0	0.404		0.172	0.0258	2
	SW-846 7471B		**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.202		0.202	0.0101	1
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	**%**	
00118	Moisture	n.a.	1.3		0.50	0.50	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262938
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS61

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016	21:06	Christopher G Torres	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	18:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	18:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	18:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	03:00	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	21:38	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	08:49	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	15:20	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	15:02	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	08:28	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:10	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:10	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:10	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	13:24	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:24	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:10	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016	13:24	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262938
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:10	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 14:56	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262939
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	170	23	8	1.12
11995	Benzene	71-43-2	23	6	0.6	1.12
11995	Bromodichloromethane	75-27-4	21	6	1	1.12
11995	Bromoform	75-25-2	20	6	1	1.12
11995	Bromomethane	74-83-9	21	6	2	1.12
11995	2-Butanone	78-93-3	160	11	5	1.12
11995	Carbon Disulfide	75-15-0	21	6	1	1.12
11995	Carbon Tetrachloride	56-23-5	23	6	1	1.12
11995	Chlorobenzene	108-90-7	22	6	1	1.12
11995	Chloroethane	75-00-3	21	6	2	1.12
11995	Chloroform	67-66-3	22	6	1	1.12
11995	Chloromethane	74-87-3	20	6	2	1.12
11995	Cyclohexane	110-82-7	25	6	1	1.12
11995	1,2-Dibromo-3-chloropropane	96-12-8	21	6	2	1.12
11995	Dibromochloromethane	124-48-1	20	6	1	1.12
11995	1,2-Dibromoethane	106-93-4	22	6	1	1.12
11995	1,2-Dichlorobenzene	95-50-1	21	6	1	1.12
11995	1,3-Dichlorobenzene	541-73-1	21	6	1	1.12
11995	1,4-Dichlorobenzene	106-46-7	21	6	1	1.12
11995	Dichlorodifluoromethane	75-71-8	19	6	2	1.12
11995	1,1-Dichloroethane	75-34-3	22	6	1	1.12
11995	1,2-Dichloroethane	107-06-2	21	6	1	1.12
11995	1,1-Dichloroethene	75-35-4	23	6	1	1.12
11995	cis-1,2-Dichloroethene	156-59-2	24	6	1	1.12
11995	trans-1,2-Dichloroethene	156-60-5	24	6	1	1.12
11995	1,2-Dichloropropane	78-87-5	23	6	1	1.12
11995	cis-1,3-Dichloropropene	10061-01-5	21	6	1	1.12
11995	trans-1,3-Dichloropropene	10061-02-6	21	6	1	1.12
11995	Ethylbenzene	100-41-4	23	6	1	1.12
11995	Freon 113	76-13-1	24	11	2	1.12
11995	2-Hexanone	591-78-6	110	11	3	1.12
11995	Isopropylbenzene	98-82-8	24	6	1	1.12
11995	Methyl Acetate	79-20-9	23	6	2	1.12
11995	Methyl Tertiary Butyl Ether	1634-04-4	22	6	0.6	1.12
11995	4-Methyl-2-pentanone	108-10-1	110	11	3	1.12
11995	Methylcyclohexane	108-87-2	26	6	1	1.12
11995	Methylene Chloride	75-09-2	22	6	2	1.12
11995	Styrene	100-42-5	17	6	1	1.12
11995	1,1,2,2-Tetrachloroethane	79-34-5	22	6	1	1.12
11995	Tetrachloroethene	127-18-4	24	6	1	1.12
11995	Toluene	108-88-3	23	6	1	1.12
11995	1,2,4-Trichlorobenzene	120-82-1	20	6	1	1.12
11995	1,1,1-Trichloroethane	71-55-6	20	6	1	1.12
11995	1,1,2-Trichloroethane	79-00-5	21	6	1	1.12
11995	Trichloroethene	79-01-6	23	6	1	1.12
11995	Trichlorofluoromethane	75-69-4	23	6	2	1.12
11995	Vinyl Chloride	75-01-4	21	6	1	1.12
11995	Xylene (Total)	1330-20-7	69	6	1	1.12
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	1,700	17	3	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262939
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Acenaphthylene	208-96-8	1,800	17	3	1
10726	Acetophenone	98-86-2	1,500	34	17	1
10726	Anthracene	120-12-7	1,600	17	3	1
10726	Atrazine	1912-24-9	1,200	170	34	1
10726	Benzaldehyde	100-52-7	1,100	170	67	1
10726	Benzo(a)anthracene	56-55-3	1,400	17	3	1
10726	Benzo(a)pyrene	50-32-8	1,700	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	1,600	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	1,800	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	1,600	17	3	1
10726	1,1'-Biphenyl	92-52-4	1,500	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	1,900	34	17	1
10726	Butylbenzylphthalate	85-68-7	1,700	170	67	1
10726	Di-n-butylphthalate	84-74-2	1,600	170	67	1
10726	Caprolactam	105-60-2	1,500	170	34	1
10726	Carbazole	86-74-8	1,500	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	1,700	34	17	1
10726	4-Chloroaniline	106-47-8	410	67	34	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,600	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,500	34	17	1
10726	2-Chloronaphthalene	91-58-7	1,700	33	7	1
10726	2-Chlorophenol	95-57-8	1,700	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,600	34	17	1
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	1,500	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	Chrysene	218-01-9	1,500	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	1,800	17	3	1
10726	Dibenzofuran	132-64-9	1,700	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	1,300	340	100	1
10726	2,4-Dichlorophenol	120-83-2	1,700	34	17	1
10726	Diethylphthalate	84-66-2	1,600	170	67	1
10726	2,4-Dimethylphenol	105-67-9	1,600	34	17	1
10726	Dimethylphthalate	131-11-3	1,600	170	67	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,200	500	170	1
10726	2,4-Dinitrophenol	51-28-5	1,800	1,000	300	1
10726	2,4-Dinitrotoluene	121-14-2	1,600	170	67	1
10726	2,6-Dinitrotoluene	606-20-2	1,600	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,600	170	67	1
10726	Fluoranthene	206-44-0	1,400	17	3	1
10726	Fluorene	86-73-7	1,600	17	3	1
10726	Hexachlorobenzene	118-74-1	1,700	17	3	1
10726	Hexachlorobutadiene	87-68-3	1,600	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	3,400	500	170	1
10726	Hexachloroethane	67-72-1	1,600	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,800	17	3	1
10726	Isophorone	78-59-1	1,600	34	17	1
10726	2-Methylnaphthalene	91-57-6	1,600	17	3	1
10726	2-Methylphenol	95-48-7	1,700	34	17	1

*=This limit was used in the evaluation of the final result

Sample Description: SBO-06-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262939
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
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Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	4-Methylphenol	106-44-5	1,600	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,500	17	3	1
10726	2-Nitroaniline	88-74-4	1,700	34	17	1
10726	3-Nitroaniline	99-09-2	1,400	170	67	1
10726	4-Nitroaniline	100-01-6	1,200	170	67	1
10726	Nitrobenzene	98-95-3	1,600	34	17	1
10726	2-Nitrophenol	88-75-5	1,600	34	17	1
10726	4-Nitrophenol	100-02-7	1,400	500	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,800	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	1,700	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	1,600	170	67	1
10726	Pentachlorophenol	87-86-5	1,600	170	34	1
10726	Phenanthrene	85-01-8	1,600	17	3	1
10726	Phenol	108-95-2	1,600	34	17	1
10726	Pyrene	129-00-0	1,600	17	3	1
10726	2,4,5-Trichlorophenol	95-95-4	1,600	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	1,700	34	17	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/kg**	**ug/kg**	**ug/kg**	
13413	4-Amino-2,6-Dinitrotoluene	19406-51-0	2,000	120	40	1
13413	2-Amino-4,6-Dinitrotoluene	35572-78-2	2,000	120	40	1
13413	2,6-Diamino-4-nitrotoluene	59229-75-3	< 300	300	100	1
13413	2,4-Diamino-6-nitrotoluene	6629-29-4	< 300	300	100	1
13413	3,5-Dinitroaniline	618-87-1	2,000	120	40	1
13413	1,3-Dinitrobenzene	99-65-0	2,100	120	40	1
13413	2,4-Dinitrotoluene	121-14-2	2,100	120	40	1
13413	2,6-Dinitrotoluene	606-20-2	2,000	120	40	1
13413	HMX	2691-41-0	2,100	300	100	1
13413	Nitrobenzene	98-95-3	2,300	300	100	1
13413	Nitroglycerin	55-63-0	20,000	2,400	800	1
13413	2-Nitrotoluene	88-72-2	2,000	120	40	1
13413	3-Nitrotoluene	99-08-1	1,900	120	40	1
13413	4-Nitrotoluene	99-99-0	2,000	120	40	1
13413	PETN	78-11-5	21,000	2,400	800	1
13413	RDX	121-82-4	2,300	120	40	1
13413	Tetryl	479-45-8	1,700	300	100	1
13413	1,3,5-Trinitrobenzene	99-35-4	2,100	120	40	1
13413	2,4,6-Trinitrotoluene	118-96-7	2,100	120	40	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	160	17	3.6	1
10885	PCB-1221	11104-28-2	< 17	17	4.6	1

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Analysis Report

Sample Description: SBO-06-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262939
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1232	11141-16-5	< 17	17	8.1	1
10885	PCB-1242	53469-21-9	< 17	17	3.3	1
10885	PCB-1248	12672-29-6	< 17	17	3.3	1
10885	PCB-1254	11097-69-1	51	17	3.3	1
10885	PCB-1260	11096-82-5	210	17	4.9	1
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
08283	Ethylene glycol	107-21-1	98	10	5.1	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	6,660	39.7	7.61	1
06946	Barium	7440-39-3	215	0.993	0.119	1
01650	Calcium	7440-70-2	724	39.7	3.31	1
06952	Cobalt	7440-48-4	49.9	0.993	0.0805	1
06953	Copper	7440-50-8	28.3	1.99	0.318	1
01654	Iron	7439-89-6	5,690	39.7	3.31	1
06955	Lead	7439-92-1	17.0	2.98	0.407	1
01657	Magnesium	7439-95-4	797	19.9	1.66	1
06958	Manganese	7439-96-5	152	0.993	0.119	1
06961	Nickel	7440-02-0	51.8	1.99	0.228	1
01662	Potassium	7440-09-7	1,560	99.3	16.7	1
01667	Sodium	7440-23-5	1,050	199	16.6	1
06970	Titanium	7440-32-6	388	1.99	0.368	1
06971	Vanadium	7440-62-2	61.1	0.993	0.228	1
06972	Zinc	7440-66-6	59.6	3.97	0.765	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.985	0.397	0.0656	2
06125	Arsenic	7440-38-2	2.94	0.795	0.149	2
06127	Beryllium	7440-41-7	0.966	0.199	0.0141	2
06128	Cadmium	7440-43-9	1.06	0.199	0.0457	2
06131	Chromium	7440-47-3	18.0	0.795	0.0993	2
06141	Selenium	7782-49-2	2.07	0.795	0.0993	2
06142	Silver	7440-22-4	10.6	0.199	0.0199	2
06145	Thallium	7440-28-0	0.473	0.199	0.0298	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.194	0.194	0.0097	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	1.3	0.50	0.50	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262939
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPS61

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016	21:28	Christopher G Torres	1.12
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016	18:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201606040255	02/26/2016	18:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201606040255	02/26/2016	18:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16068SLF026	03/11/2016	03:23	Ankitaben A Patel	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16068SLF026	03/09/2016	08:30	Benjamin J Rosenberger	1
13413	Nitroaromatics/Amines 8330B(s)	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/06/2016	22:15	Jessica L Miller	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	160660011A	03/09/2016	09:12	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	160660011A	03/07/2016	21:30	Michelle A Newswanger	1
13433	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	160620008A	03/03/2016	14:15	Wanda F Oswald	1
08283	Glycols in Soil	SW-846 8015B	1	160670009A	03/09/2016	15:38	Tyler O Griffin	1
11551	Solids Glycol Extraction	SW-846 8015B	1	160670009A	03/08/2016	10:00	Tyler O Griffin	1
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016	15:06	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016	08:32	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016	06:13	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016	06:13	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016	06:13	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/09/2016	13:25	Deborah A Krady	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016	13:25	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016	06:13	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/09/2016	13:25	Deborah A Krady	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262939
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:13	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 14:58	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262940
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	2,900	29.4	5.62	1
06946	Barium	7440-39-3	14.2	0.734	0.0881	1
01650	Calcium	7440-70-2	174	29.4	2.44	1
06952	Cobalt	7440-48-4	1.29	0.734	0.0595	1
06953	Copper	7440-50-8	7.54	1.47	0.235	1
01654	Iron	7439-89-6	4,040	29.4	2.44	1
06955	Lead	7439-92-1	3.06	2.20	0.301	1
01657	Magnesium	7439-95-4	384	14.7	1.23	1
06958	Manganese	7439-96-5	76.1	0.734	0.0881	1
06961	Nickel	7440-02-0	1.59	1.47	0.169	1
01662	Potassium	7440-09-7	343	73.4	12.3	1
01667	Sodium	7440-23-5	< 147	147	12.3	1
06970	Titanium	7440-32-6	179	1.47	0.272	1
06971	Vanadium	7440-62-2	6.62	0.734	0.169	1
06972	Zinc	7440-66-6	11.9	2.94	0.565	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.294	0.294	0.0485	2
06125	Arsenic	7440-38-2	< 0.587	0.587	0.110	2
06127	Beryllium	7440-41-7	< 0.147	0.147	0.0104	2
06128	Cadmium	7440-43-9	< 0.147	0.147	0.0338	2
06131	Chromium	7440-47-3	4.95	0.587	0.0734	2
06141	Selenium	7782-49-2	< 0.587	0.587	0.0734	2
06142	Silver	7440-22-4	< 0.147	0.147	0.0147	2
06145	Thallium	7440-28-0	< 0.147	0.147	0.0220	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.346	0.200	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	1.3	0.50	0.50	1
00121	Moisture Duplicate	n.a.	1.3	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: SBO-06-12-14-022616DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8262940
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:30 by TK

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
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CPS61

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06946	Barium	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	160630637002	03/09/2016 14:59	Suzanne M Will	1
01654	Iron	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	160630637002	03/05/2016 08:25	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	160630637002A	03/08/2016 06:07	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	160630637002A	03/08/2016 06:07	Tara L Snyder	2
06127	Beryllium	SW-846 6020A	1	160630637002A	03/08/2016 06:07	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	160630637002A	03/08/2016 06:07	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	160630637002A	03/09/2016 13:22	Deborah A Krady	2
06141	Selenium	SW-846 6020A	1	160630637002B	03/08/2016 06:07	Tara L Snyder	2
06142	Silver	SW-846 6020A	1	160630637002A	03/08/2016 06:07	Tara L Snyder	2
06145	Thallium	SW-846 6020A	1	160630637002A	03/08/2016 06:07	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	160630638002	03/04/2016 14:53	Damary Valentin	1
10637	SW SW846 (IV)ICP/ICPMS Digest	SW-846 3050B	1	160630637002	03/04/2016 07:46	Lisa J Cooke	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	160630638002	03/04/2016 11:58	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16061820016B	03/02/2016 14:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: Trip_Blank-02-022616 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8262941
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:18

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPTB2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/kg	ug/kg	ug/kg	
11995	Acetone	67-64-1	< 20	20	7	1
11995	Benzene	71-43-2	< 5	5	0.5	1
11995	Bromodichloromethane	75-27-4	< 5	5	1	1
11995	Bromoform	75-25-2	< 5	5	1	1
11995	Bromomethane	74-83-9	< 5	5	2	1
11995	2-Butanone	78-93-3	< 10	10	4	1
11995	Carbon Disulfide	75-15-0	< 5	5	1	1
11995	Carbon Tetrachloride	56-23-5	< 5	5	1	1
11995	Chlorobenzene	108-90-7	< 5	5	1	1
11995	Chloroethane	75-00-3	< 5	5	2	1
11995	Chloroform	67-66-3	< 5	5	1	1
11995	Chloromethane	74-87-3	< 5	5	2	1
11995	Cyclohexane	110-82-7	< 5	5	1	1
11995	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11995	Dibromochloromethane	124-48-1	< 5	5	1	1
11995	1,2-Dibromoethane	106-93-4	< 5	5	1	1
11995	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11995	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11995	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11995	Dichlorodifluoromethane	75-71-8	< 5	5	2	1
11995	1,1-Dichloroethane	75-34-3	< 5	5	1	1
11995	1,2-Dichloroethane	107-06-2	< 5	5	1	1
11995	1,1-Dichloroethene	75-35-4	< 5	5	1	1
11995	cis-1,2-Dichloroethene	156-59-2	< 5	5	1	1
11995	trans-1,2-Dichloroethene	156-60-5	< 5	5	1	1
11995	1,2-Dichloropropane	78-87-5	< 5	5	1	1
11995	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1	1
11995	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1	1
11995	Ethylbenzene	100-41-4	< 5	5	1	1
11995	Freon 113	76-13-1	< 10	10	2	1
11995	2-Hexanone	591-78-6	< 10	10	3	1
11995	Isopropylbenzene	98-82-8	< 5	5	1	1
11995	Methyl Acetate	79-20-9	< 5	5	2	1
11995	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	0.5	1
11995	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11995	Methylcyclohexane	108-87-2	< 5	5	1	1
11995	Methylene Chloride	75-09-2	< 5	5	2	1
11995	Styrene	100-42-5	< 5	5	1	1
11995	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1	1
11995	Tetrachloroethene	127-18-4	< 5	5	1	1
11995	Toluene	108-88-3	< 5	5	1	1
11995	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11995	1,1,1-Trichloroethane	71-55-6	< 5	5	1	1
11995	1,1,2-Trichloroethane	79-00-5	< 5	5	1	1
11995	Trichloroethene	79-01-6	< 5	5	1	1
11995	Trichlorofluoromethane	75-69-4	< 5	5	2	1
11995	Vinyl Chloride	75-01-4	< 5	5	1	1
11995	Xylene (Total)	1330-20-7	< 5	5	1	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Trip_Blank-02-022616 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8262941
LL Group # 1635590
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 02/26/2016 18:18

Submitted: 02/27/2016 09:50
Reported: 03/17/2016 15:54

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPTB2

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A160692AA	03/09/2016 20:21	Christopher G Torres	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201606040255	02/26/2016 18:18	Client Supplied	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: A160692AA	Sample number(s): 8262928,8262931-8262932,8262934,8262936-8262939,8262941		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1
Batch number: A160702AA	Sample number(s): 8262930,8262933		
Acetone	< 20	20	7
Benzene	< 5	5	0.5
Bromodichloromethane	< 5	5	1
Bromoform	< 5	5	1
Bromomethane	< 5	5	2
2-Butanone	< 10	10	4
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 5	5	1
Chlorobenzene	< 5	5	1
Chloroethane	< 5	5	2
Chloroform	< 5	5	1
Chloromethane	< 5	5	2
Cyclohexane	< 5	5	1
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 5	5	1
1,2-Dibromoethane	< 5	5	1
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 5	5	2
1,1-Dichloroethane	< 5	5	1
1,2-Dichloroethane	< 5	5	1
1,1-Dichloroethene	< 5	5	1
cis-1,2-Dichloroethene	< 5	5	1
trans-1,2-Dichloroethene	< 5	5	1
1,2-Dichloropropane	< 5	5	1
cis-1,3-Dichloropropene	< 5	5	1
trans-1,3-Dichloropropene	< 5	5	1
Ethylbenzene	< 5	5	1
Freon 113	< 10	10	2
2-Hexanone	< 10	10	3
Isopropylbenzene	< 5	5	1
Methyl Acetate	< 5	5	2
Methyl Tertiary Butyl Ether	< 5	5	0.5
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 5	5	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 5	5	1
Tetrachloroethene	< 5	5	1
Toluene	< 5	5	1
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 5	5	1
1,1,2-Trichloroethane	< 5	5	1
Trichloroethene	< 5	5	1
Trichlorofluoromethane	< 5	5	2
Vinyl Chloride	< 5	5	1
Xylene (Total)	< 5	5	1

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Batch number: R160621AA	Sample number(s): 8262929,8262935		
Acetone	< 1,000	1,000	350
Benzene	< 250	250	25
Bromodichloromethane	< 250	250	50
Bromoform	< 250	250	50
Bromomethane	< 250	250	100
2-Butanone	< 500	500	200
Carbon Disulfide	< 250	250	50
Carbon Tetrachloride	< 250	250	50
Chlorobenzene	< 250	250	50
Chloroethane	< 250	250	100
Chloroform	< 250	250	50
Chloromethane	< 250	250	100
Cyclohexane	< 250	250	50
1,2-Dibromo-3-chloropropane	< 250	250	100
Dibromochloromethane	< 250	250	50
1,2-Dibromoethane	< 250	250	50
1,2-Dichlorobenzene	< 250	250	50
1,3-Dichlorobenzene	< 250	250	50
1,4-Dichlorobenzene	< 250	250	50
Dichlorodifluoromethane	< 250	250	100
1,1-Dichloroethane	< 250	250	50
1,2-Dichloroethane	< 250	250	50
1,1-Dichloroethene	< 250	250	50
cis-1,2-Dichloroethene	< 250	250	50
trans-1,2-Dichloroethene	< 250	250	50
1,2-Dichloropropane	< 250	250	50
cis-1,3-Dichloropropene	< 250	250	50
trans-1,3-Dichloropropene	< 250	250	50
Ethylbenzene	< 250	250	50
Freon 113	< 500	500	100
2-Hexanone	< 500	500	150
Isopropylbenzene	< 250	250	50
Methyl Acetate	< 250	250	100
Methyl Tertiary Butyl Ether	< 250	250	25
4-Methyl-2-pentanone	< 500	500	150
Methylcyclohexane	< 250	250	50
Methylene Chloride	< 250	250	100
Styrene	< 250	250	50
1,1,2,2-Tetrachloroethane	< 250	250	50
Tetrachloroethene	< 250	250	50
Toluene	< 250	250	50
1,2,4-Trichlorobenzene	< 250	250	50
1,1,1-Trichloroethane	< 250	250	50
1,1,2-Trichloroethane	< 250	250	50
Trichloroethene	< 250	250	50
Trichlorofluoromethane	< 250	250	100
Vinyl Chloride	< 250	250	50
Xylene (Total)	< 250	250	50
Batch number: 16068SLD026	Sample number(s): 8262928		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

Analysis Name	Result ug/kg	LOQ** ug/kg	MDL ug/kg
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 16068SLF026	Sample number(s): 8262929-8262939		
Acenaphthene	< 17	17	3
Acenaphthylene	< 17	17	3
Acetophenone	< 33	33	17
Anthracene	< 17	17	3
Atrazine	< 170	170	33
Benzaldehyde	< 170	170	67
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Benzo(g,h,i)perylene	< 17	17	3
Benzo(k)fluoranthene	< 17	17	3
1,1'-Biphenyl	< 33	33	17
4-Bromophenyl-phenylether	< 33	33	17
Butylbenzylphthalate	< 170	170	67
Di-n-butylphthalate	< 170	170	67
Caprolactam	< 170	170	33
Carbazole	< 33	33	17
4-Chloro-3-methylphenol	< 33	33	17
4-Chloroaniline	< 67	67	33
bis(2-Chloroethoxy)methane	< 33	33	17
bis(2-Chloroethyl)ether	< 33	33	17
2-Chloronaphthalene	< 33	33	7
2-Chlorophenol	< 33	33	17
4-Chlorophenyl-phenylether	< 33	33	17
2,2'-oxybis(1-Chloropropane)	< 33	33	17
Chrysene	< 17	17	3
Dibenz(a,h)anthracene	< 17	17	3
Dibenzofuran	< 33	33	17
3,3'-Dichlorobenzidine	< 330	330	100
2,4-Dichlorophenol	< 33	33	17
Diethylphthalate	< 170	170	67
2,4-Dimethylphenol	< 33	33	17
Dimethylphthalate	< 170	170	67
4,6-Dinitro-2-methylphenol	< 500	500	170
2,4-Dinitrophenol	< 1,000	1,000	300
2,4-Dinitrotoluene	< 170	170	67
2,6-Dinitrotoluene	< 33	33	17
bis(2-Ethylhexyl)phthalate	< 170	170	67
Fluoranthene	< 17	17	3
Fluorene	< 17	17	3
Hexachlorobenzene	< 17	17	3
Hexachlorobutadiene	< 33	33	17
Hexachlorocyclopentadiene	< 500	500	170
Hexachloroethane	< 170	170	33
Indeno(1,2,3-cd)pyrene	< 17	17	3

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Isophorone	< 33	33	17
2-Methylnaphthalene	< 17	17	3
2-Methylphenol	< 33	33	17
4-Methylphenol	< 33	33	17
Naphthalene	< 17	17	3
2-Nitroaniline	< 33	33	17
3-Nitroaniline	< 170	170	67
4-Nitroaniline	< 170	170	67
Nitrobenzene	< 33	33	17
2-Nitrophenol	< 33	33	17
4-Nitrophenol	< 500	500	170
N-Nitroso-di-n-propylamine	< 33	33	17
N-Nitrosodiphenylamine	< 33	33	17
Di-n-octylphthalate	< 170	170	67
Pentachlorophenol	< 170	170	33
Phenanthrene	< 17	17	3
Phenol	< 33	33	17
Pyrene	< 17	17	3
2,4,5-Trichlorophenol	< 33	33	17
2,4,6-Trichlorophenol	< 33	33	17
Batch number: 160620008A	Sample number(s): 8262928-8262939		
4-Amino-2,6-Dinitrotoluene	< 120	120	40
2-Amino-4,6-Dinitrotoluene	< 120	120	40
2,6-Diamino-4-nitrotoluene	< 300	300	100
2,4-Diamino-6-nitrotoluene	< 300	300	100
3,5-Dinitroaniline	< 120	120	40
1,3-Dinitrobenzene	< 120	120	40
2,4-Dinitrotoluene	< 120	120	40
2,6-Dinitrotoluene	< 120	120	40
HMX	< 300	300	100
Nitrobenzene	< 300	300	100
Nitroglycerin	< 2,400	2,400	800
2-Nitrotoluene	< 120	120	40
3-Nitrotoluene	< 120	120	40
4-Nitrotoluene	< 120	120	40
PETN	< 2,400	2,400	800
RDX	< 120	120	40
Tetryl	< 300	300	100
1,3,5-Trinitrobenzene	< 120	120	40
2,4,6-Trinitrotoluene	< 120	120	40
Batch number: 160660011A	Sample number(s): 8262928-8262932,8262934-8262939		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
Batch number: 160680020A	Sample number(s): 8262933		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	mg/kg	mg/kg	mg/kg
Batch number: 160670009A	Sample number(s): 8262928-8262939		
Ethylene glycol	< 10	10	5.0
Batch number: 160630637002	Sample number(s): 8262928-8262940		
Aluminum	< 40.0	40.0	7.66
Barium	< 1.00	1.00	0.120
Calcium	< 40.0	40.0	3.33
Cobalt	< 1.00	1.00	0.0810
Copper	< 2.00	2.00	0.320
Iron	< 40.0	40.0	3.33
Lead	< 3.00	3.00	0.410
Magnesium	< 20.0	20.0	1.67
Manganese	< 1.00	1.00	0.120
Nickel	< 2.00	2.00	0.230
Potassium	< 100	100	16.8
Sodium	< 200	200	16.7
Titanium	< 2.00	2.00	0.370
Vanadium	< 1.00	1.00	0.230
Zinc	< 4.00	4.00	0.770
Batch number: 160630637002A	Sample number(s): 8262928-8262940		
Antimony	< 0.400	0.400	0.0660
Arsenic	< 0.800	0.800	0.150
Beryllium	< 0.200	0.200	0.0142
Cadmium	< 0.200	0.200	0.0460
Chromium	< 0.800	0.800	0.100
Silver	< 0.200	0.200	0.0200
Thallium	< 0.200	0.200	0.0300
Batch number: 160630637002B	Sample number(s): 8262928-8262940		
Selenium	< 0.800	0.800	0.100
Batch number: 160630638002	Sample number(s): 8262928-8262940		
Mercury	< 0.200	0.200	0.0100

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A160692AA	Sample number(s): 8262928,8262931-8262932,8262934,8262936-8262939,8262941								
Acetone	150	126.5			84		46-139		
Benzene	20	18.78			94		80-120		
Bromodichloromethane	20	17.03			85		75-120		
Bromoform	20	15.97			80		64-120		
Bromomethane	20	14.54			73		16-200		
2-Butanone	150	130.72			87		54-129		
Carbon Disulfide	20	16.52			83		60-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Carbon Tetrachloride	20	17.85			89		69-130		
Chlorobenzene	20	18.14			91		80-120		
Chloroethane	20	13.95			70		11-200		
Chloroform	20	18.2			91		80-120		
Chloromethane	20	13.35			67		56-120		
Cyclohexane	20	17.62			88		58-120		
1,2-Dibromo-3-chloropropane	20	16.12			81		54-120		
Dibromochloromethane	20	16.9			84		77-120		
1,2-Dibromoethane	20	18.07			90		80-120		
1,2-Dichlorobenzene	20	18.27			91		80-120		
1,3-Dichlorobenzene	20	18.41			92		80-120		
1,4-Dichlorobenzene	20	18.17			91		80-120		
Dichlorodifluoromethane	20	11.33			57		28-131		
1,1-Dichloroethane	20	17.89			89		77-120		
1,2-Dichloroethane	20	17.3			87		77-130		
1,1-Dichloroethene	20	17.89			89		73-129		
cis-1,2-Dichloroethene	20	19.37			97		80-120		
trans-1,2-Dichloroethene	20	18.9			95		80-125		
1,2-Dichloropropane	20	18.74			94		76-120		
cis-1,3-Dichloropropene	20	18.28			91		74-120		
trans-1,3-Dichloropropene	20	18.01			90		76-120		
Ethylbenzene	20	18.9			95		80-120		
Freon 113	20	17.17			86		57-141		
2-Hexanone	100	81.36			81		39-120		
Isopropylbenzene	20	19.58			98		70-120		
Methyl Acetate	20	17.64			88		52-146		
Methyl Tertiary Butyl Ether	20	18.68			93		72-120		
4-Methyl-2-pentanone	100	83.17			83		50-120		
Methylcyclohexane	20	17.31			87		52-128		
Methylene Chloride	20	17.84			89		76-122		
Styrene	20	19.14			96		76-120		
1,1,2,2-Tetrachloroethane	20	17.78			89		67-121		
Tetrachloroethene	20	21.28			106		78-120		
Toluene	20	18.94			95		80-120		
1,2,4-Trichlorobenzene	20	18.37			92		55-120		
1,1,1-Trichloroethane	20	16.9			84		66-128		
1,1,2-Trichloroethane	20	17.2			86		80-120		
Trichloroethene	20	18.61			93		80-120		
Trichlorofluoromethane	20	14.62			73		54-140		
Vinyl Chloride	20	14.06			70		59-120		
Xylene (Total)	60	56.89			95		80-120		
Batch number: A160702AA	Sample number(s): 8262930,8262933								
Acetone	150	125.85	150	125.59	84	84	46-139	0	30
Benzene	20	18.76	20	18.37	94	92	80-120	2	30
Bromodichloromethane	20	17.64	20	17.35	88	87	75-120	2	30
Bromoform	20	16.44	20	15.86	82	79	64-120	4	30
Bromomethane	20	16.76	20	16.11	84	81	16-200	4	30
2-Butanone	150	124.21	150	127.33	83	85	54-129	2	30
Carbon Disulfide	20	17.68	20	17.09	88	85	60-120	3	30
Carbon Tetrachloride	20	19.26	20	18.44	96	92	69-130	4	30
Chlorobenzene	20	18.15	20	17.58	91	88	80-120	3	30
Chloroethane	20	15.93	20	15.35	80	77	11-200	4	30
Chloroform	20	18.87	20	18.6	94	93	80-120	1	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chloromethane	20	15.52	20	15.85	78	79	56-120	2	30
Cyclohexane	20	18.03	20	18.01	90	90	58-120	0	30
1,2-Dibromo-3-chloropropane	20	16.84	20	16.17	84	81	54-120	4	30
Dibromochloromethane	20	17.42	20	16.64	87	83	77-120	5	30
1,2-Dibromoethane	20	18.4	20	17.78	92	89	80-120	3	30
1,2-Dichlorobenzene	20	18.05	20	17.59	90	88	80-120	3	30
1,3-Dichlorobenzene	20	17.87	20	17.52	89	88	80-120	2	30
1,4-Dichlorobenzene	20	17.85	20	17.46	89	87	80-120	2	30
Dichlorodifluoromethane	20	15.91	20	15.23	80	76	28-131	4	30
1,1-Dichloroethane	20	18.3	20	17.87	92	89	77-120	2	30
1,2-Dichloroethane	20	18.6	20	18.21	93	91	77-130	2	30
1,1-Dichloroethene	20	19.11	20	18.46	96	92	73-129	3	30
cis-1,2-Dichloroethene	20	19.57	20	19.24	98	96	80-120	2	30
trans-1,2-Dichloroethene	20	20.17	20	19.25	101	96	80-125	5	30
1,2-Dichloropropane	20	18.56	20	18.5	93	93	76-120	0	30
cis-1,3-Dichloropropene	20	17.2	20	17.34	86	87	74-120	1	30
trans-1,3-Dichloropropene	20	17.67	20	17.65	88	88	76-120	0	30
Ethylbenzene	20	18.96	20	18.44	95	92	80-120	3	30
Freon 113	20	19.28	20	18.55	96	93	57-141	4	30
2-Hexanone	100	82.53	100	80.48	83	80	39-120	3	30
Isopropylbenzene	20	19.54	20	18.9	98	94	70-120	3	30
Methyl Acetate	20	20.26	20	18.99	101	95	52-146	6	30
Methyl Tertiary Butyl Ether	20	19.26	20	18.94	96	95	72-120	2	30
4-Methyl-2-pentanone	100	83.79	100	83.48	84	83	50-120	0	30
Methylcyclohexane	20	19.58	20	18.83	98	94	52-128	4	30
Methylene Chloride	20	18.3	20	18.29	91	91	76-122	0	30
Styrene	20	19.09	20	18.56	95	93	76-120	3	30
1,1,2,2-Tetrachloroethane	20	17.23	20	16.88	86	84	67-121	2	30
Tetrachloroethene	20	19.22	20	18.18	96	91	78-120	6	30
Toluene	20	18.53	20	18.16	93	91	80-120	2	30
1,2,4-Trichlorobenzene	20	17.44	20	17.14	87	86	55-120	2	30
1,1,1-Trichloroethane	20	18.33	20	17.74	92	89	66-128	3	30
1,1,2-Trichloroethane	20	17.56	20	17.01	88	85	80-120	3	30
Trichloroethene	20	19.19	20	18.54	96	93	80-120	3	30
Trichlorofluoromethane	20	17.81	20	16.63	89	83	54-140	7	30
Vinyl Chloride	20	16.18	20	15.85	81	79	59-120	2	30
Xylene (Total)	60	56.39	60	54.81	94	91	80-120	3	30
Batch number: R160621AA	Sample number(s): 8262929,8262935								
Acetone	7500	5884.62	7500	6400.79	78	85	46-139	8	30
Benzene	1000	958.42	1000	1013.67	96	101	80-120	6	30
Bromodichloromethane	1000	933.44	1000	981.78	93	98	75-120	5	30
Bromoform	1000	966.71	1000	1015.78	97	102	64-120	5	30
Bromomethane	1000	863.59	1000	938.51	86	94	16-200	8	30
2-Butanone	7500	6714.92	7500	7367.85	90	98	54-129	9	30
Carbon Disulfide	1000	1013.78	1000	1113.78	101	111	60-120	9	30
Carbon Tetrachloride	1000	948.08	1000	987.89	95	99	69-130	4	30
Chlorobenzene	1000	930.58	1000	968.72	93	97	80-120	4	30
Chloroethane	1000	832.18	1000	885.73	83	89	11-200	6	30
Chloroform	1000	959.17	1000	1006.85	96	101	80-120	5	30
Chloromethane	1000	783.29	1000	830.32	78	83	56-120	6	30
Cyclohexane	1000	854.4	1000	865.28	85	87	58-120	1	30
1,2-Dibromo-3-chloropropane	1000	836.86	1000	868.87	84	87	54-120	4	30
Dibromochloromethane	1000	974.91	1000	1033.12	97	103	77-120	6	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dibromoethane	1000	992.22	1000	1058	99	106	80-120	6	30
1,2-Dichlorobenzene	1000	989.92	1000	1016.3	99	102	80-120	3	30
1,3-Dichlorobenzene	1000	999.05	1000	1033.4	100	103	80-120	3	30
1,4-Dichlorobenzene	1000	973.61	1000	1017.84	97	102	80-120	4	30
Dichlorodifluoromethane	1000	550.04	1000	566.19	55	57	28-131	3	30
1,1-Dichloroethane	1000	959.1	1000	997.44	96	100	77-120	4	30
1,2-Dichloroethane	1000	965.02	1000	1014.21	97	101	77-130	5	30
1,1-Dichloroethene	1000	1000.04	1000	1049.91	100	105	73-129	5	30
cis-1,2-Dichloroethene	1000	989.31	1000	1049.66	99	105	80-120	6	30
trans-1,2-Dichloroethene	1000	1031.43	1000	1057.97	103	106	80-125	3	30
1,2-Dichloropropane	1000	970.39	1000	1037.85	97	104	76-120	7	30
cis-1,3-Dichloropropene	1000	979.87	1000	1031.08	98	103	74-120	5	30
trans-1,3-Dichloropropene	1000	1012.19	1000	1077.68	101	108	76-120	6	30
Ethylbenzene	1000	922.73	1000	972.84	92	97	80-120	5	30
Freon 113	1000	847.94	1000	864.08	85	86	57-141	2	30
2-Hexanone	5000	4966.54	5000	5118.84	99	102	39-120	3	30
Isopropylbenzene	1000	941.68	1000	987.55	94	99	70-120	5	30
Methyl Acetate	1000	943.42	1000	970.11	94	97	52-146	3	30
Methyl Tertiary Butyl Ether	1000	963.89	1000	1009.83	96	101	72-120	5	30
4-Methyl-2-pentanone	5000	4906.08	5000	5166.51	98	103	50-120	5	30
Methylcyclohexane	1000	820.65	1000	832.48	82	83	52-128	1	30
Methylene Chloride	1000	1022.59	1000	1084.7	102	108	76-122	6	30
Styrene	1000	900.61	1000	957.4	90	96	76-120	6	30
1,1,2,2-Tetrachloroethane	1000	930.46	1000	989.43	93	99	67-121	6	30
Tetrachloroethene	1000	990.49	1000	1029.78	99	103	78-120	4	30
Toluene	1000	975.33	1000	1045.31	98	105	80-120	7	30
1,2,4-Trichlorobenzene	1000	1106.06	1000	1048.3	111	105	55-120	5	30
1,1,1-Trichloroethane	1000	923.87	1000	963.51	92	96	66-128	4	30
1,1,2-Trichloroethane	1000	964.15	1000	1016.28	96	102	80-120	5	30
Trichloroethene	1000	973.84	1000	1024.39	97	102	80-120	5	30
Trichlorofluoromethane	1000	880.49	1000	888.73	88	89	54-140	1	30
Vinyl Chloride	1000	807.41	1000	850.93	81	85	59-120	5	30
Xylene (Total)	3000	2839.23	3000	2970.45	95	99	80-120	5	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16068SLD026	Sample number(s): 8262928								
Acenaphthene	1666.67	1678.79			101		83-116		
Acenaphthylene	1666.67	1815.57			109		83-119		
Acetophenone	1666.67	1571.6			94		74-116		
Anthracene	1666.67	1696.67			102		82-118		
Atrazine	1666.67	1513.44			91		62-143		
Benzaldehyde	1666.67	1057.72			63		10-93		
Benzo(a)anthracene	1666.67	1598.36			96		76-119		
Benzo(a)pyrene	1666.67	1659.41			100		85-117		
Benzo(b)fluoranthene	1666.67	1595.24			96		78-129		
Benzo(g,h,i)perylene	1666.67	1835.09			110		77-118		
Benzo(k)fluoranthene	1666.67	1751.28			105		79-120		
1,1'-Biphenyl	1666.67	1491.75			90		76-111		
4-Bromophenyl-phenylether	1666.67	1901.12			114		84-120		
Butylbenzylphthalate	1666.67	1825.86			110		80-118		
Di-n-butylphthalate	1666.67	1724.08			103		84-120		
Caprolactam	1666.67	1687.92			101		73-119		
Carbazole	1666.67	1670.14			100		78-117		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
4-Chloro-3-methylphenol	1666.67	1966.39			118		79-127		
4-Chloroaniline	1666.67	652.21			39		10-100		
bis(2-Chloroethoxy)methane	1666.67	1769.45			106		77-116		
bis(2-Chloroethyl)ether	1666.67	1540.07			92		77-115		
2-Chloronaphthalene	1666.67	1679.43			101		63-146		
2-Chlorophenol	1666.67	1815.9			109		85-123		
4-Chlorophenyl-phenylether	1666.67	1641.71			99		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1522.87			91		61-134		
Chrysene	1666.67	1699.01			102		80-121		
Dibenz(a,h)anthracene	1666.67	1792.43			108		81-123		
Dibenzofuran	1666.67	1662.17			100		85-115		
3,3'-Dichlorobenzidine	1666.67	1673.83			100		10-116		
2,4-Dichlorophenol	1666.67	1822.24			109		86-125		
Diethylphthalate	1666.67	1711.41			103		81-118		
2,4-Dimethylphenol	1666.67	1865.49			112		83-120		
Dimethylphthalate	1666.67	1709.27			103		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1686.78			101		46-134		
2,4-Dinitrophenol	3333.33	2511.14			75		16-132		
2,4-Dinitrotoluene	1666.67	1730.97			104		81-122		
2,6-Dinitrotoluene	1666.67	1700.71			102		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1739.66			104		81-121		
Fluoranthene	1666.67	1537.74			92		81-117		
Fluorene	1666.67	1636.7			98		86-118		
Hexachlorobenzene	1666.67	1781.46			107		79-116		
Hexachlorobutadiene	1666.67	1698.86			102		72-120		
Hexachlorocyclopentadiene	3333.33	3981.94			119		64-137		
Hexachloroethane	1666.67	1713.07			103		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1752.24			105		81-118		
Isophorone	1666.67	1798.64			108		77-118		
2-Methylnaphthalene	1666.67	1732.85			104		83-109		
2-Methylphenol	1666.67	1822.72			109		80-133		
4-Methylphenol	1666.67	1824.72			109		73-125		
Naphthalene	1666.67	1652.27			99		82-112		
2-Nitroaniline	1666.67	1834.66			110		84-126		
3-Nitroaniline	1666.67	1615.21			97		66-119		
4-Nitroaniline	1666.67	1487.93			89		44-110		
Nitrobenzene	1666.67	1738.33			104		70-122		
2-Nitrophenol	1666.67	1825.03			110		83-120		
4-Nitrophenol	1666.67	1591.58			95		52-133		
N-Nitroso-di-n-propylamine	1666.67	1781.5			107		67-121		
N-Nitrosodiphenylamine	1666.67	1607.53			96		83-118		
Di-n-octylphthalate	1666.67	1696.17			102		80-140		
Pentachlorophenol	1666.67	1849.76			111		57-126		
Phenanthrene	1666.67	1568.35			94		80-114		
Phenol	1666.67	1720.67			103		73-122		
Pyrene	1666.67	1629.66			98		81-114		
2,4,5-Trichlorophenol	1666.67	1818.59			109		86-123		
2,4,6-Trichlorophenol	1666.67	1743.76			105		81-123		
Batch number: 16068SLF026	Sample number(s): 8262929-8262939								
Acenaphthene	1666.67	1736.92			104		83-116		
Acenaphthylene	1666.67	1800.28			108		83-119		
Acetophenone	1666.67	1455.04			87		74-116		
Anthracene	1666.67	1688.18			101		82-118		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Atrazine	1666.67	1572.13			94		62-143		
Benzaldehyde	1666.67	926.99			56		10-93		
Benzo(a)anthracene	1666.67	1568.28			94		76-119		
Benzo(a)pyrene	1666.67	1656.4			99		85-117		
Benzo(b)fluoranthene	1666.67	1602.44			96		78-129		
Benzo(g,h,i)perylene	1666.67	1681.36			101		77-118		
Benzo(k)fluoranthene	1666.67	1668.03			100		79-120		
1,1'-Biphenyl	1666.67	1519.23			91		76-111		
4-Bromophenyl-phenylether	1666.67	1815.39			109		84-120		
Butylbenzylphthalate	1666.67	1771.66			106		80-118		
Di-n-butylphthalate	1666.67	1716.76			103		84-120		
Caprolactam	1666.67	1610.96			97		73-119		
Carbazole	1666.67	1622.82			97		78-117		
4-Chloro-3-methylphenol	1666.67	1913.55			115		79-127		
4-Chloroaniline	1666.67	713.94			43		10-100		
bis(2-Chloroethoxy)methane	1666.67	1753.97			105		77-116		
bis(2-Chloroethyl)ether	1666.67	1479.27			89		77-115		
2-Chloronaphthalene	1666.67	1862.94			112		63-146		
2-Chlorophenol	1666.67	1697.51			102		85-123		
4-Chlorophenyl-phenylether	1666.67	1659.9			100		81-120		
2,2'-oxybis(1-Chloropropane)	1666.67	1451.25			87		61-134		
Chrysene	1666.67	1612.73			97		80-121		
Dibenz(a,h)anthracene	1666.67	1686.81			101		81-123		
Dibenzofuran	1666.67	1655.96			99		85-115		
3,3'-Dichlorobenzidine	1666.67	1675.26			101		10-116		
2,4-Dichlorophenol	1666.67	1832.03			110		86-125		
Diethylphthalate	1666.67	1711.98			103		81-118		
2,4-Dimethylphenol	1666.67	1727.1			104		83-120		
Dimethylphthalate	1666.67	1704.56			102		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1624.41			97		46-134		
2,4-Dinitrophenol	3333.33	2486.55			75		16-132		
2,4-Dinitrotoluene	1666.67	1724.97			103		81-122		
2,6-Dinitrotoluene	1666.67	1673.38			100		86-125		
bis(2-Ethylhexyl)phthalate	1666.67	1662.72			100		81-121		
Fluoranthene	1666.67	1539.81			92		81-117		
Fluorene	1666.67	1694.96			102		86-118		
Hexachlorobenzene	1666.67	1742.53			105		79-116		
Hexachlorobutadiene	1666.67	1745.61			105		72-120		
Hexachlorocyclopentadiene	3333.33	4529.41			136		64-137		
Hexachloroethane	1666.67	1601.1			96		78-114		
Indeno(1,2,3-cd)pyrene	1666.67	1643.09			99		81-118		
Isophorone	1666.67	1729.36			104		77-118		
2-Methylnaphthalene	1666.67	1682.4			101		83-109		
2-Methylphenol	1666.67	1677.52			101		80-133		
4-Methylphenol	1666.67	1602.65			96		73-125		
Naphthalene	1666.67	1653.91			99		82-112		
2-Nitroaniline	1666.67	1778.86			107		84-126		
3-Nitroaniline	1666.67	1637.34			98		66-119		
4-Nitroaniline	1666.67	1451.81			87		44-110		
Nitrobenzene	1666.67	1729			104		70-122		
2-Nitrophenol	1666.67	1775.58			107		83-120		
4-Nitrophenol	1666.67	1650.64			99		52-133		
N-Nitroso-di-n-propylamine	1666.67	1646.25			99		67-121		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
N-Nitrosodiphenylamine	1666.67	1617.27			97		83-118		
Di-n-octylphthalate	1666.67	1739.55			104		80-140		
Pentachlorophenol	1666.67	1887.4			113		57-126		
Phenanthrene	1666.67	1549.41			93		80-114		
Phenol	1666.67	1574.1			94		73-122		
Pyrene	1666.67	1612.8			97		81-114		
2,4,5-Trichlorophenol	1666.67	1717.51			103		86-123		
2,4,6-Trichlorophenol	1666.67	1778.15			107		81-123		
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160620008A	Sample number(s): 8262928-8262939								
4-Amino-2,6-Dinitrotoluene	2010	2117.77			105		42-138		
2-Amino-4,6-Dinitrotoluene	2010	2207.77			110		43-141		
2,6-Diamino-4-nitrotoluene	1800	1818.4	1800	1812.21	101	101	80-115	0	50
2,4-Diamino-6-nitrotoluene	1810	1548.8	1810	1545.04	86	85	79-115	0	50
3,5-Dinitroaniline	2000	2215.05			111		47-141		
1,3-Dinitrobenzene	2000	2250.76			113		54-140		
2,4-Dinitrotoluene	2010	2209.92			110		52-137		
2,6-Dinitrotoluene	2010	2127.91			106		51-138		
HMX	2010	2290.19			114		29-148		
Nitrobenzene	2000	2380.71			119		64-138		
Nitroglycerin	22100	21601.63			98		45-137		
2-Nitrotoluene	2010	2135.58			106		57-135		
3-Nitrotoluene	2010	2113.38			105		57-135		
4-Nitrotoluene	2000	2105.52			105		53-133		
PETN	22100	22272.29			101		36-143		
RDX	2000	2415.21			121		45-145		
Tetryl	2000	2114.55			106		38-152		
1,3,5-Trinitrobenzene	2010	2231.34			111		48-141		
2,4,6-Trinitrotoluene	2000	2180.62			109		47-140		
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160660011A	Sample number(s): 8262928-8262932,8262934-8262939								
PCB-1016	168	158.32			94		76-121		
PCB-1260	168	194.91			116		79-130		
Batch number: 160680020A	Sample number(s): 8262933								
PCB-1016	167.9	149.92			89		76-121		
PCB-1260	168.3	180.96			108		79-130		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160670009A	Sample number(s): 8262928-8262939								
Ethylene glycol	104	90.31			87		76-122		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160630637002	Sample number(s): 8262928-8262940								
Aluminum	200	211.3			106		80-120		
Barium	200	205.61			103		80-120		
Calcium	400	420.73			105		80-120		
Cobalt	50	51.36			103		80-120		
Copper	25	26.46			106		80-120		
Iron	100	101.39			101		80-120		
Lead	15	15.44			103		80-120		

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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Magnesium	200	211.28			106		80-120		
Manganese	50	51.28			103		80-120		
Nickel	50	52.88			106		80-120		
Potassium	1000	1040.1			104		80-120		
Sodium	1000	1041.55			104		80-120		
Titanium	100	102.36			102		80-120		
Vanadium	50	52.61			105		80-120		
Zinc	50	51.09			102		80-120		
Batch number: 160630637002A	Sample number(s): 8262928-8262940								
Antimony	0.600	0.614			102		80-120		
Arsenic	1.00	1.10			110		80-120		
Beryllium	0.400	0.418			105		80-120		
Cadmium	0.500	0.521			104		80-120		
Chromium	5.00	5.26			105		80-120		
Silver	5.00	5.44			109		80-120		
Thallium	0.200	0.213			107		80-120		
Batch number: 160630637002B	Sample number(s): 8262928-8262940								
Selenium	1.00	1.05			105		80-120		
Batch number: 160630638002	Sample number(s): 8262928-8262940								
Mercury	0.100	0.0920			92		80-120		
	%	%	%	%					
Batch number: 16061820016B	Sample number(s): 8262932-8262940								
Moisture	89.5	89.43			100		99-101		
Moisture	89.5	89.43			100		99-101		
Moisture Duplicate	89.5	89.43			100		99-101		
Batch number: 16063820005B	Sample number(s): 8262928-8262930								
Moisture	89.5	89.45			100		99-101		
Batch number: 16063820010A	Sample number(s): 8262931								
Moisture	89.5	89.45			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A160692AA	Sample number(s): 8262928,8262931-8262932,8262934,8262936-8262939,8262941 UNSPK: 8262937									
Acetone	16.63	146.78	156.96	167.79	162.95	96	87	46-139	4	30
Benzene	< 5	19.57	22.28	22.37	22.63	114	101	80-120	2	30
Bromodichloromethane	< 5	19.57	20.6	22.37	20.51	105	92	75-120	0	30
Bromoform	< 5	19.57	19.65	22.37	19.47	100	87	64-120	1	30
Bromomethane	< 5	19.57	20.1	22.37	20.63	103	92	16-200	3	30
2-Butanone	< 10	146.78	154.48	167.79	154.9	105	92	54-129	0	30
Carbon Disulfide	< 5	19.57	20.68	22.37	21.17	106	95	60-120	2	30

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(1) The result for one or both determinations was less than five times the LOQ.
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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Carbon Tetrachloride	< 5	19.57	22.48	22.37	22.9	115	102	69-130	2	30
Chlorobenzene	< 5	19.57	20.84	22.37	21.39	106	96	80-120	3	30
Chloroethane	< 5	19.57	19.54	22.37	20.6	100	92	11-200	5	30
Chloroform	< 5	19.57	21.91	22.37	21.97	112	98	80-120	0	30
Chloromethane	< 5	19.57	18.65	22.37	19.34	95	86	56-120	4	30
Cyclohexane	< 5	19.57	23.86	22.37	24.28	122*	109	58-120	2	30
1,2-Dibromo-3-chloropropane	< 5	19.57	20.99	22.37	20.46	107	91	54-120	3	30
Dibromochloromethane	< 5	19.57	20.33	22.37	20.08	104	90	77-120	1	30
1,2-Dibromoethane	< 5	19.57	22.11	22.37	21.73	113	97	80-120	2	30
1,2-Dichlorobenzene	< 5	19.57	20.5	22.37	20.9	105	93	80-120	2	30
1,3-Dichlorobenzene	< 5	19.57	20.29	22.37	20.88	104	93	80-120	3	30
1,4-Dichlorobenzene	< 5	19.57	19.87	22.37	20.68	102	92	80-120	4	30
Dichlorodifluoromethane	< 5	19.57	17.91	22.37	18.36	92	82	28-131	2	30
1,1-Dichloroethane	< 5	19.57	21.44	22.37	21.71	110	97	77-120	1	30
1,2-Dichloroethane	< 5	19.57	20.91	22.37	20.77	107	93	77-130	1	30
1,1-Dichloroethene	< 5	19.57	22.65	22.37	22.91	116	102	73-129	1	30
cis-1,2-Dichloroethene	< 5	19.57	23.29	22.37	23.49	119	105	80-120	1	30
trans-1,2-Dichloroethene	< 5	19.57	23.19	22.37	23.32	118	104	80-125	1	30
1,2-Dichloropropane	< 5	19.57	22.33	22.37	22.35	114	100	76-120	0	30
cis-1,3-Dichloropropene	< 5	19.57	21.17	22.37	21.22	108	95	74-120	0	30
trans-1,3-Dichloropropene	< 5	19.57	21.08	22.37	20.91	108	93	76-120	1	30
Ethylbenzene	< 5	19.57	21.92	22.37	22.67	112	101	80-120	3	30
Freon 113	< 10	19.57	23.67	22.37	23.48	121	105	57-141	1	30
2-Hexanone	< 10	97.85	105.99	111.86	103.86	108	93	39-120	2	30
Isopropylbenzene	< 5	19.57	23.21	22.37	24	119	107	70-120	3	30
Methyl Acetate	< 5	19.57	21.26	22.37	22.21	109	99	52-146	4	30
Methyl Tertiary Butyl Ether	< 5	19.57	22.15	22.37	21.84	113	98	72-120	1	30
4-Methyl-2-pentanone	< 10	97.85	108.35	111.86	106.55	111	95	50-120	2	30
Methylcyclohexane	< 5	19.57	23.82	22.37	25.79	122	115	52-128	8	30
Methylene Chloride	< 5	19.57	21.03	22.37	21.59	107	96	76-122	3	30
Styrene	< 5	19.57	21.21	22.37	17.08	108	76	76-120	22	30
1,1,2,2-Tetrachloroethane	< 5	19.57	22.02	22.37	21.49	113	96	67-121	2	30
Tetrachloroethene	< 5	19.57	22.95	22.37	23.25	117	104	78-120	1	30
Toluene	< 5	19.57	21.84	22.37	22.42	112	100	80-120	3	30
1,2,4-Trichlorobenzene	< 5	19.57	19.56	22.37	19.62	100	88	55-120	0	30
1,1,1-Trichloroethane	< 5	19.57	19.53	22.37	19.87	100	89	66-128	2	30
1,1,2-Trichloroethane	< 5	19.57	20.76	22.37	20.66	106	92	80-120	0	30
Trichloroethene	< 5	19.57	22.38	22.37	22.94	114	103	80-120	2	30
Trichlorofluoromethane	< 5	19.57	21.88	22.37	22.46	112	100	54-140	3	30
Vinyl Chloride	< 5	19.57	20.49	22.37	21.22	105	95	59-120	3	30
Xylene (Total)	< 5	58.71	65.96	67.12	67.75	112	101	80-120	3	30
Batch number: R160621AA	Sample number(s): 8262929,8262935 UNSPK: P260957									
Acetone	< 960	8970.9	7435.09	7562.72	7019.05	83	93	46-139	6	30
Benzene	< 240	1196.12	1093.21	1008.36	1015.33	91	101	80-120	7	30
Bromodichloromethane	< 240	1196.12	1073.69	1008.36	1023.24	90	101	75-120	5	30
Bromoform	< 240	1196.12	1121.95	1008.36	1082.91	94	107	64-120	4	30
Bromomethane	< 240	1196.12	971.92	1008.36	971.31	81	96	16-200	0	30
2-Butanone	< 480	8970.9	8028.56	7562.72	7507.9	89	99	54-129	7	30
Carbon Disulfide	< 240	1196.12	1126.94	1008.36	1078.2	94	107	60-120	4	30
Carbon Tetrachloride	< 240	1196.12	1086.11	1008.36	1043.67	91	104	69-130	4	30
Chlorobenzene	< 240	1196.12	1066.01	1008.36	1004.86	89	100	80-120	6	30
Chloroethane	< 240	1196.12	956.36	1008.36	920.44	80	91	11-200	4	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Chloroform	< 240	1196.12	1144.49	1008.36	1084.68	96	108	80-120	5	30
Chloromethane	< 240	1196.12	819.42	1008.36	838	69	83	56-120	2	30
Cyclohexane	< 240	1196.12	1032.11	1008.36	896.28	86	89	58-120	14	30
1,2-Dibromo-3-chloropropane	< 240	1196.12	953.7	1008.36	898.24	80	89	54-120	6	30
Dibromochloromethane	< 240	1196.12	1146.65	1008.36	1062.95	96	105	77-120	8	30
1,2-Dibromoethane	< 240	1196.12	1110.9	1008.36	1058.22	93	105	80-120	5	30
1,2-Dichlorobenzene	< 240	1196.12	1082.76	1008.36	1027.82	91	102	80-120	5	30
1,3-Dichlorobenzene	< 240	1196.12	1104.49	1008.36	1042.06	92	103	80-120	6	30
1,4-Dichlorobenzene	< 240	1196.12	1084.02	1008.36	1014.7	91	101	80-120	7	30
Dichlorodifluoromethane	< 240	1196.12	393.92	1008.36	427.07	33	42	28-131	8	30
1,1-Dichloroethane	< 240	1196.12	1109.89	1008.36	1057.91	93	105	77-120	5	30
1,2-Dichloroethane	< 240	1196.12	1110.9	1008.36	1025.34	93	102	77-130	8	30
1,1-Dichloroethene	84.99	1196.12	1196.77	1008.36	1112.29	93	102	73-129	7	30
cis-1,2-Dichloroethene	< 240	1196.12	1161.16	1008.36	1085.76	97	108	80-120	7	30
trans-1,2-Dichloroethene	< 240	1196.12	1177.67	1008.36	1110.07	98	110	80-125	6	30
1,2-Dichloropropane	< 240	1196.12	1125.14	1008.36	1055.06	94	105	76-120	6	30
cis-1,3-Dichloropropene	< 240	1196.12	1108.22	1008.36	1061.8	93	105	74-120	4	30
trans-1,3-Dichloropropene	< 240	1196.12	1111.27	1008.36	1071.17	93	106	76-120	4	30
Ethylbenzene	< 240	1196.12	1075.82	1008.36	994.99	90	99	80-120	8	30
Freon 113	< 480	1196.12	909.51	1008.36	905.1	76	90	57-141	0	30
2-Hexanone	< 480	5980.6	5711.72	5041.81	5457.62	96	108	39-120	5	30
Isopropylbenzene	< 240	1196.12	1090.75	1008.36	1028.92	91	102	70-120	6	30
Methyl Acetate	< 240	1196.12	1193.06	1008.36	1097.35	100	109	52-146	8	30
Methyl Tertiary Butyl Ether	< 240	1196.12	1140.8	1008.36	1055.41	95	105	72-120	8	30
4-Methyl-2-pentanone	< 480	5980.6	5583.06	5041.81	5323.02	93	106	50-120	5	30
Methylcyclohexane	92.56	1196.12	1259.6	1008.36	953.72	98	85	52-128	28	30
Methylene Chloride	< 240	1196.12	1188.11	1008.36	1112.68	99	110	76-122	7	30
Styrene	< 240	1196.12	1034.1	1008.36	978.14	86	97	76-120	6	30
1,1,2,2-Tetrachloroethane	< 240	1196.12	1091.71	1008.36	1031.67	91	102	67-121	6	30
Tetrachloroethene	34342.72	1196.12	36386.02	1008.36	14968.2	171 (2)	-1920 (2)	78-120	83*	30
Toluene	< 240	1196.12	1225.37	1008.36	1076.85	102	107	80-120	13	30
1,2,4-Trichlorobenzene	< 240	1196.12	1001.39	1008.36	1024.11	84	102	55-120	2	30
1,1,1-Trichloroethane	967.26	1196.12	2183.4	1008.36	1417.54	102	45*	66-128	43*	30
1,1,2-Trichloroethane	< 240	1196.12	1078.59	1008.36	1038.02	90	103	80-120	4	30
Trichloroethene	675.16	1196.12	1895.42	1008.36	1363.61	102	68*	80-120	33*	30
Trichlorofluoromethane	< 240	1196.12	970.35	1008.36	951.99	81	94	54-140	2	30
Vinyl Chloride	< 240	1196.12	833.38	1008.36	840.57	70	83	59-120	1	30
Xylene (Total)	< 240	3588.36	3590.25	3025.09	3099.32	100	102	80-120	15	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16068SLD026	Sample number(s): 8262928 UNSPK: P262914									
Acenaphthene	< 17	1643.66	1678.69	1644.74	1731.26	102	105	83-116	3	30
Acenaphthylene	< 17	1643.66	1738.44	1644.74	1823.52	106	111	83-119	5	30
Acetophenone	< 33	1643.66	1599.22	1644.74	1522.86	97	93	74-116	5	30
Anthracene	< 17	1643.66	1599.8	1644.74	1677.32	97	102	82-118	5	30
Atrazine	< 170	1643.66	1385.77	1644.74	1340.74	84	82	62-143	3	30
Benzaldehyde	< 170	1643.66	1092.68	1644.74	987.36	66	60	10-93	10	30
Benzo(a)anthracene	< 17	1643.66	1431.96	1644.74	1455.45	87	88	76-119	2	30
Benzo(a)pyrene	< 17	1643.66	1620.74	1644.74	1643.73	99	100	85-117	1	30
Benzo(b)fluoranthene	< 17	1643.66	1655.07	1644.74	1629.99	101	99	78-129	2	30
Benzo(g,h,i)perylene	< 17	1643.66	1784.84	1644.74	1742.31	109	106	77-118	2	30
Benzo(k)fluoranthene	< 17	1643.66	1632.35	1644.74	1748.62	99	106	79-120	7	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,1'-Biphenyl	< 33	1643.66	1481.84	1644.74	1502.64	90	91	76-111	1	30
4-Bromophenyl-phenylether	< 33	1643.66	1926.98	1644.74	1869.46	117	114	84-120	3	30
Butylbenzylphthalate	< 170	1643.66	1766.36	1644.74	1765.96	107	107	80-118	0	30
Di-n-butylphthalate	< 170	1643.66	1608.04	1644.74	1639.05	98	100	84-120	2	30
Caprolactam	< 170	1643.66	1460.81	1644.74	1637.77	89	100	73-119	11	30
Carbazole	< 33	1643.66	1545.94	1644.74	1549.86	94	94	78-117	0	30
4-Chloro-3-methylphenol	< 33	1643.66	1667.97	1644.74	1903.03	101	116	79-127	13	30
4-Chloroaniline	< 66	1643.66	846.03	1644.74	894.85	51	54	10-100	6	30
bis(2-Chloroethoxy)methane	< 33	1643.66	1586.19	1644.74	1662.08	97	101	77-116	5	30
bis(2-Chloroethyl)ether	< 33	1643.66	1573.21	1644.74	1436.39	96	87	77-115	9	30
2-Chloronaphthalene	< 33	1643.66	1777.81	1644.74	1818.52	108	111	63-146	2	30
2-Chlorophenol	< 33	1643.66	1702.09	1644.74	1613.53	104	98	85-123	5	30
4-Chlorophenyl-phenylether	< 33	1643.66	1625.22	1644.74	1695.05	99	103	81-120	4	30
2,2'-oxybis(1-Chloropropane)	< 33	1643.66	1560.66	1644.74	1410.71	95	86	61-134	10	30
Chrysene	< 17	1643.66	1528.29	1644.74	1550.58	93	94	80-121	1	30
Dibenz(a,h)anthracene	< 17	1643.66	1746.9	1644.74	1771.3	106	108	81-123	1	30
Dibenzofuran	< 33	1643.66	1654.92	1644.74	1705.64	101	104	85-115	3	30
3,3'-Dichlorobenzidine	< 330	1643.66	1380.81	1644.74	1428.52	84	87	10-116	3	30
2,4-Dichlorophenol	< 33	1643.66	1723.06	1644.74	1786.86	105	109	86-125	4	30
Diethylphthalate	< 170	1643.66	1668.58	1644.74	1771.22	102	108	81-118	6	30
2,4-Dimethylphenol	< 33	1643.66	1599.87	1644.74	1688.68	97	103	83-120	5	30
Dimethylphthalate	< 170	1643.66	1647.54	1644.74	1753.69	100	107	82-113	6	30
4,6-Dinitro-2-methylphenol	< 500	1643.66	1278.79	1644.74	1225.24	78	74	46-134	4	30
2,4-Dinitrophenol	< 990	3287.31	1676.83	3289.47	1943.31	51	59	16-132	15	30
2,4-Dinitrotoluene	< 170	1643.66	1640.81	1644.74	1704.11	100	104	81-122	4	30
2,6-Dinitrotoluene	< 33	1643.66	1620.03	1644.74	1740.96	99	106	86-125	7	30
bis(2-Ethylhexyl)phthalate	< 170	1643.66	1633.35	1644.74	1653.61	99	101	81-121	1	30
Fluoranthene	4.07	1643.66	1437	1644.74	1457.61	87	88	81-117	1	30
Fluorene	< 17	1643.66	1617.63	1644.74	1719.85	98	105	86-118	6	30
Hexachlorobenzene	< 17	1643.66	1819.79	1644.74	1912.16	111	116	79-116	5	30
Hexachlorobutadiene	< 33	1643.66	1678.64	1644.74	1631.4	102	99	72-120	3	30
Hexachlorocyclopentadiene	< 500	3287.31	3702.11	3289.47	3705.58	113	113	64-137	0	30
Hexachloroethane	< 170	1643.66	1813.78	1644.74	1572.31	110	96	78-114	14	30
Indeno(1,2,3-cd)pyrene	< 17	1643.66	1687.26	1644.74	1799.7	103	109	81-118	6	30
Isophorone	< 33	1643.66	1598.84	1644.74	1735.46	97	106	77-118	8	30
2-Methylnaphthalene	< 17	1643.66	1594.42	1644.74	1728.49	97	105	83-109	8	30
2-Methylphenol	< 33	1643.66	1783	1644.74	1694.98	108	103	80-133	5	30
4-Methylphenol	< 33	1643.66	1687.91	1644.74	1601.49	103	97	73-125	5	30
Naphthalene	< 17	1643.66	1583.92	1644.74	1647.11	96	100	82-112	4	30
2-Nitroaniline	< 33	1643.66	1683.92	1644.74	1745.36	102	106	84-126	4	30
3-Nitroaniline	< 170	1643.66	1608.64	1644.74	1659.92	98	101	66-119	3	30
4-Nitroaniline	< 170	1643.66	1382.9	1644.74	1426.81	84	87	44-110	3	30
Nitrobenzene	< 33	1643.66	1672.26	1644.74	1722.9	102	105	70-122	3	30
2-Nitrophenol	< 33	1643.66	1636.37	1644.74	1679.04	100	102	83-120	3	30
4-Nitrophenol	< 500	1643.66	1533.81	1644.74	1678.66	93	102	52-133	9	30
N-Nitroso-di-n-propylamine	< 33	1643.66	1809.66	1644.74	1640.33	110	100	67-121	10	30
N-Nitrosodiphenylamine	< 33	1643.66	1583.22	1644.74	1579.51	96	96	83-118	0	30
Di-n-octylphthalate	< 170	1643.66	1746.75	1644.74	1796.15	106	109	80-140	3	30
Pentachlorophenol	< 170	1643.66	1621.94	1644.74	1522.58	99	93	57-126	6	30
Phenanthrene	< 17	1643.66	1527.93	1644.74	1558.41	93	95	80-114	2	30
Phenol	< 33	1643.66	1686.1	1644.74	1555.99	103	95	73-122	8	30
Pyrene	< 17	1643.66	1603.06	1644.74	1631.95	98	99	81-114	2	30
2,4,5-Trichlorophenol	< 33	1643.66	1782.54	1644.74	1757.31	108	107	86-123	1	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4,6-Trichlorophenol	< 33	1643.66	1750.52	1644.74	1775.24	107	108	81-123	1	30
Batch number: 16068SLF026	Sample number(s): 8262929-8262939 UNSPK: 8262937									
Acenaphthene	< 17	1650.17	1639.38	1660.03	1665.61	99	100	83-116	2	30
Acenaphthylene	< 17	1650.17	1699.38	1660.03	1728.67	103	104	83-119	2	30
Acetophenone	< 33	1650.17	1354.75	1660.03	1488.52	82	90	74-116	9	30
Anthracene	< 17	1650.17	1593.92	1660.03	1621.81	97	98	82-118	2	30
Atrazine	< 170	1650.17	1352.4	1660.03	1200.72	82	72	62-143	12	30
Benzaldehyde	< 170	1650.17	979.26	1660.03	1049.58	59	63	10-93	7	30
Benzo(a)anthracene	< 17	1650.17	1372.71	1660.03	1420.65	83	86	76-119	3	30
Benzo(a)pyrene	< 17	1650.17	1515.58	1660.03	1641.08	92	99	85-117	8	30
Benzo(b)fluoranthene	< 17	1650.17	1558.96	1660.03	1604.99	94	97	78-129	3	30
Benzo(g,h,i)perylene	< 17	1650.17	1685.33	1660.03	1760.77	102	106	77-118	4	30
Benzo(k)fluoranthene	< 17	1650.17	1571.67	1660.03	1576.53	95	95	79-120	0	30
1,1'-Biphenyl	< 33	1650.17	1512.99	1660.03	1510.03	92	91	76-111	0	30
4-Bromophenyl-phenylether	< 33	1650.17	1821.63	1660.03	1838.16	110	111	84-120	1	30
Butylbenzylphthalate	< 170	1650.17	1649.84	1660.03	1645.41	100	99	80-118	0	30
Di-n-butylphthalate	< 170	1650.17	1604.84	1660.03	1605.68	97	97	84-120	0	30
Caprolactam	< 170	1650.17	1502.52	1660.03	1441.53	91	87	73-119	4	30
Carbazole	< 33	1650.17	1486.96	1660.03	1486.22	90	90	78-117	0	30
4-Chloro-3-methylphenol	< 33	1650.17	1698.26	1660.03	1658.44	103	100	79-127	2	30
4-Chloroaniline	< 66	1650.17	713.88	1660.03	400.38	43	24	10-100	56*	30
bis(2-Chloroethoxy)methane	< 33	1650.17	1657.97	1660.03	1565.26	100	94	77-116	6	30
bis(2-Chloroethyl)ether	< 33	1650.17	1390.57	1660.03	1504.97	84	91	77-115	8	30
2-Chloronaphthalene	< 33	1650.17	1678.13	1660.03	1724.2	102	104	63-146	3	30
2-Chlorophenol	< 33	1650.17	1573.17	1660.03	1724.73	95	104	85-123	9	30
4-Chlorophenyl-phenylether	< 33	1650.17	1525.57	1660.03	1582.99	92	95	81-120	4	30
2,2'-oxybis(1-Chloropropane)	< 33	1650.17	1336.35	1660.03	1473.58	81	89	61-134	10	30
Chrysene	< 17	1650.17	1507.7	1660.03	1480.89	91	89	80-121	2	30
Dibenz(a,h)anthracene	< 17	1650.17	1683.8	1660.03	1748.79	102	105	81-123	4	30
Dibenzofuran	< 33	1650.17	1602.57	1660.03	1638.4	97	99	85-115	2	30
3,3'-Dichlorobenzidine	< 330	1650.17	1423.35	1660.03	1270.42	86	77	10-116	11	30
2,4-Dichlorophenol	< 33	1650.17	1755.75	1660.03	1657.68	106	100	86-125	6	30
Diethylphthalate	< 170	1650.17	1583.34	1660.03	1588.08	96	96	81-118	0	30
2,4-Dimethylphenol	< 33	1650.17	1630.85	1660.03	1567.03	99	94	83-120	4	30
Dimethylphthalate	< 170	1650.17	1573.27	1660.03	1576.42	95	95	82-113	0	30
4,6-Dinitro-2-methylphenol	< 500	1650.17	1337.88	1660.03	1224.36	81	74	46-134	9	30
2,4-Dinitrophenol	< 990	3300.33	1893.18	3320.05	1805.96	57	54	16-132	5	30
2,4-Dinitrotoluene	< 170	1650.17	1543.11	1660.03	1580.72	94	95	81-122	2	30
2,6-Dinitrotoluene	< 33	1650.17	1524.63	1660.03	1560.72	92	94	86-125	2	30
bis(2-Ethylhexyl)phthalate	< 170	1650.17	1596.43	1660.03	1591.79	97	96	81-121	0	30
Fluoranthene	< 17	1650.17	1363.93	1660.03	1365.18	83	82	81-117	0	30
Fluorene	< 17	1650.17	1568.36	1660.03	1585.67	95	96	86-118	1	30
Hexachlorobenzene	< 17	1650.17	1838.51	1660.03	1724.23	111	104	79-116	6	30
Hexachlorobutadiene	< 33	1650.17	1791.02	1660.03	1583.61	109	95	72-120	12	30
Hexachlorocyclopentadiene	< 500	3300.33	3311.07	3320.05	3307.47	100	100	64-137	0	30
Hexachloroethane	< 170	1650.17	1581.63	1660.03	1561.44	96	94	78-114	1	30
Indeno(1,2,3-cd)pyrene	< 17	1650.17	1664.79	1660.03	1816.02	101	109	81-118	9	30
Isophorone	< 33	1650.17	1690.02	1660.03	1593.94	102	96	77-118	6	30
2-Methylnaphthalene	< 17	1650.17	1617.57	1660.03	1553.46	98	94	83-109	4	30
2-Methylphenol	< 33	1650.17	1535.28	1660.03	1667.51	93	100	80-133	8	30
4-Methylphenol	< 33	1650.17	1443.26	1660.03	1565.28	87	94	73-125	8	30
Naphthalene	< 17	1650.17	1594.83	1660.03	1521.85	97	92	82-112	5	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2-Nitroaniline	< 33	1650.17	1645.59	1660.03	1662.21	100	100	84-126	1	30
3-Nitroaniline	< 170	1650.17	1488.36	1660.03	1360.85	90	82	66-119	9	30
4-Nitroaniline	< 170	1650.17	1182.55	1660.03	1179.02	72	71	44-110	0	30
Nitrobenzene	< 33	1650.17	1727.99	1660.03	1618.29	105	97	70-122	7	30
2-Nitrophenol	< 33	1650.17	1717.69	1660.03	1595.44	104	96	83-120	7	30
4-Nitrophenol	< 500	1650.17	1336.72	1660.03	1403.86	81	85	52-133	5	30
N-Nitroso-di-n-propylamine	< 33	1650.17	1606.78	1660.03	1738.82	97	105	67-121	8	30
N-Nitrosodiphenylamine	< 33	1650.17	1617.05	1660.03	1649.56	98	99	83-118	2	30
Di-n-octylphthalate	< 170	1650.17	1558.87	1660.03	1604.58	94	97	80-140	3	30
Pentachlorophenol	< 170	1650.17	1678.19	1660.03	1594.46	102	96	57-126	5	30
Phenanthrene	< 17	1650.17	1527.32	1660.03	1550.95	93	93	80-114	2	30
Phenol	< 33	1650.17	1449.33	1660.03	1576.87	88	95	73-122	8	30
Pyrene	< 17	1650.17	1522.57	1660.03	1547.59	92	93	81-114	2	30
2,4,5-Trichlorophenol	< 33	1650.17	1599.47	1660.03	1618.59	97	98	86-123	1	30
2,4,6-Trichlorophenol	< 33	1650.17	1665.04	1660.03	1678.89	101	101	81-123	1	30
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160620008A	Sample number(s): 8262928-8262939 UNSPK: 8262937									
4-Amino-2,6-Dinitrotoluene	< 120	1940	1757.01	1990	1933.15	91	97	42-138	10	50
2-Amino-4,6-Dinitrotoluene	< 120	1940	1809.55	1990	2004.39	93	101	43-141	10	50
3,5-Dinitroaniline	< 120	1940	1828.76	1980	2021.17	94	102	47-141	10	50
1,3-Dinitrobenzene	< 120	1940	1913.85	1980	2078.17	99	105	54-140	8	50
2,4-Dinitrotoluene	< 120	1940	1865.93	1980	2035.15	96	103	52-137	9	50
2,6-Dinitrotoluene	< 120	1950	1804.52	1990	1967.24	93	99	51-138	9	50
HMX	< 290	1940	1857.65	1980	2111.3	96	107	29-148	13	50
Nitrobenzene	< 290	1940	2082.51	1980	2229.26	107	113	64-138	7	50
Nitroglycerin	< 2,300	21400	18185.07	21900	20033.06	85	91	45-137	10	50
2-Nitrotoluene	< 120	1940	1803.14	1980	1957.48	93	99	57-135	8	50
3-Nitrotoluene	< 120	1940	1777.59	1990	1923.55	92	97	57-135	8	50
4-Nitrotoluene	< 120	1940	1784.21	1980	1926.74	92	97	53-133	8	50
PETN	< 2,300	21400	18561.08	21800	20466.82	87	94	36-143	10	50
RDX	< 120	1940	2029.64	1980	2233.94	105	113	45-145	10	50
Tetryl	< 290	1940	1215.57	1980	1666.56	63	84	38-152	31	50
1,3,5-Trinitrobenzene	< 120	1950	1776.43	1990	2035.01	91	102	48-141	14	50
2,4,6-Trinitrotoluene	< 120	1940	1823.73	1980	2042.74	94	103	47-140	11	50
	ug/kg	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**					
Batch number: 160660011A	Sample number(s): 8262928-8262932,8262934-8262939 UNSPK: 8262937									
PCB-1016	< 17	167	162.19	167	158.22	97	95	76-121	2	50
PCB-1260	< 17	168	203.83	167	205.35	121	123	79-130	1	50
Batch number: 160680020A	Sample number(s): 8262933 UNSPK: P268010									
PCB-1016	< 17	166.79	130.38	167.34	120.2	78	72*	76-121	8	50
PCB-1260	< 17	167.19	172.98	167.74	166.08	103	99	79-130	4	50
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160670009A	Sample number(s): 8262928-8262939 UNSPK: 8262937									
Ethylene glycol	< 10	104	89.51	104	97.07	86	93	76-122	8	20
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 160630637002	Sample number(s): 8262928-8262940 UNSPK: 8262937									

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Aluminum	4292.78	169.49	6374.95	196.08	6570.94	1228 (2)	1162 (2)	75-125	3	20
Barium	18.69	169.49	189.49	196.08	212.4	101	99	75-125	11	20
Calcium	199.38	338.98	641.77	392.16	715	131*	131*	75-125	11	20
Cobalt	1.70	42.37	43.07	49.02	49.21	98	97	75-125	13	20
Copper	3.49	21.19	24.11	24.51	27.96	97	100	75-125	15	20
Iron	5430.03	84.75	5311.81	98.04	5613.16	-140 (2)	187 (2)	75-125	6	20
Lead	2.42	12.71	14.37	14.71	16.74	94	97	75-125	15	20
Magnesium	494.42	169.49	744.46	196.08	786.95	148*	149*	75-125	6	20
Manganese	106.48	42.37	144.92	49.02	150.31	91	89	75-125	4	20
Nickel	1.82	42.37	44.6	49.02	51.13	101	101	75-125	14	20
Potassium	449.12	847.46	1377.69	980.39	1537.72	110	111	75-125	11	20
Sodium	27.94	847.46	901.71	980.39	1032.94	103	103	75-125	14	20
Titanium	228.34	84.75	352.97	98.04	382.99	147*	158*	75-125	8	20
Vanadium	9.66	42.37	53.94	49.02	60.33	105	103	75-125	11	20
Zinc	10.72	42.37	51.81	49.02	58.81	97	98	75-125	13	20
Batch number: 160630637002A	Sample number(s): 8262928-8262940 UNSPK: 8262937									
Antimony	< 0.331	1.02	0.783	1.18	0.972	77	83	75-125	22*	20
Arsenic	0.669	1.69	2.35	1.96	2.90	99	114	75-125	21*	20
Beryllium	0.173	0.678	0.875	0.784	0.953	104	99	75-125	9	20
Cadmium	< 0.165	0.847	0.911	0.980	1.05	108	107	75-125	14	20
Chromium	5.68	8.47	14.06	9.80	17.72	99	123	75-125	23*	20
Silver	< 0.165	8.47	8.79	9.80	10.5	104	107	75-125	18	20
Thallium	0.0555	0.339	0.399	0.392	0.466	101	105	75-125	16	20
Batch number: 160630637002B	Sample number(s): 8262928-8262940 UNSPK: 8262937									
Selenium	< 0.661	1.69	1.79	1.96	2.05	106	104	75-125	13	20
Batch number: 160630638002	Sample number(s): 8262928-8262940 UNSPK: 8262937									
Mercury	< 0.193	0.167	0.140	0.159	0.147	84	92	80-120	5	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 160630637002	Sample number(s): 8262928-8262940 BKG: 8262937			
Aluminum	4292.78	2861.29	40*	20
Barium	18.69	14.06	28*	20
Calcium	199.38	171.82	15	20
Cobalt	1.70	1.27	29* (1)	20
Copper	3.49	7.44	72* (1)	20
Iron	5430.03	3982.94	31*	20
Lead	2.42	3.02	22* (1)	20
Magnesium	494.42	379.47	26*	20
Manganese	106.48	75.1	35*	20
Nickel	1.82	1.57	15 (1)	20
Potassium	449.12	338.78	28* (1)	20
Sodium	27.94	19.25	37* (1)	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1635590
Reported: 03/17/2016 15:54

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Titanium	228.34	176.28	26*	20
Vanadium	9.66	6.54	39*	20
Zinc	10.72	11.7	9 (1)	20
Batch number: 160630637002A	Sample number(s): 8262928-8262940 BKG: 8262937			
Antimony	< 0.331	< 0.290	0 (1)	20
Arsenic	0.669	0.442	41* (1)	20
Beryllium	0.173	0.120	37* (1)	20
Cadmium	< 0.165	< 0.145	0 (1)	20
Chromium	5.68	4.89	15	20
Silver	< 0.165	< 0.145	0 (1)	20
Thallium	0.0555	0.0339	48* (1)	20
Batch number: 160630637002B	Sample number(s): 8262928-8262940 BKG: 8262937			
Selenium	< 0.661	< 0.580	0 (1)	20
Batch number: 160630638002	Sample number(s): 8262928-8262940 BKG: 8262937			
Mercury	< 0.193	0.342	200* (1)	20
	%	%		
Batch number: 16061820016B	Sample number(s): 8262932-8262940 BKG: 8262937, P262937			
Moisture	1.32	1.31	1 (1)	5
Moisture	1.32	1.31	1 (1)	5
Moisture Duplicate	1.32	1.31	1 (1)	5
Batch number: 16063820005B	Sample number(s): 8262928-8262930 BKG: P262927			
Moisture	14.33	14.68	2	5
Batch number: 16063820010A	Sample number(s): 8262931 BKG: P263621			
Moisture	24.16	24.75	2	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Soil Master
Batch number: A160692AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262928	102	104	97	91
8262931	105	108	97	92
8262932	103	105	95	92
8262934	103	104	117	71
8262936	104	106	97	92
8262937	102	106	96	91
8262938	98	103	100	98
8262939	98	102	100	97
8262941	100	104	98	90
Blank	101	101	98	92
LCS	98	99	100	98
MS	98	103	100	98
MSD	98	102	100	97

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: A160702AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262930	125	131	91	69
8262933	100	103	103	93
Blank	106	107	96	92
LCS	100	106	100	101
LCSD	100	103	100	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R160621AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8262929	76	74	73	78
8262935	81	78	80	89
Blank	107	106	106	97
LCS	103	101	102	103
LCSD	122	120	123	133*
MS	80	78	77	72
MSD	91	86	89	84
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 16068SLD026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8262928	93	89	112	97	94	92
Blank	96	92	129	96	98	94
LCS	108	104	123	99	98	101
MS	106	101	121	95	98	98
MSD	99	94	128	101	102	99
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16068SLF026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8262929	88	99	108	100	96	92
8262930	97	95	108	95	94	95
8262931	93	91	111	96	98	96
8262932	100	97	116	98	96	91
8262933	94	99	107	99	103	96
8262934	92	87	96	106	107	93
8262935	83	77	100	89	91	95
8262936	83	80	100	74	83	76
8262937	94	92	117	95	97	96
8262938	91	88	112	102	97	96
8262939	100	98	108	95	100	92
Blank	101	98	151*	99	103	102
LCS	98	95	126	101	99	100
MS	91	88	112	102	97	96

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
MSD	100	98	108	95	100	92
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: Nitroaromatics/Amines 8330B(s)
Batch number: 160620008A

	3,4-Dinitrotoluene
8262928	103
8262929	98
8262930	105
8262931	105
8262932	102
8262933	103
8262934	96
8262935	101
8262936	108
8262937	106
8262938	101
8262939	106
Blank	104
LCS	108
LCSD	104
MS	101
MSD	106
Limits:	62-133

Analysis Name: PCBs 8082A
Batch number: 160660011A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8262928	117	110
8262929	106	182*
8262930	110	108
8262931	118	113
8262932	116	118
8262934	106	127
8262935	100	572*
8262936	110	107
8262937	122	114
8262938	112	108
8262939	118	111
Blank	113	107
LCS	117	111
MS	112	108
MSD	118	111
Limits:	53-140	45-143

Analysis Name: PCBs 8082A
Batch number: 160680020A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8262933	130	185*
Blank	108	101

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 03/17/2016 15:54

Group Number: 1635590

	Tetrachloro-m-xylene	Decachlorobiphenyl
LCS	108	103
MS	103	223*
MSD	105	232*
Limits:	53-140	45-143

Analysis Name: Glycols in Soil
Batch number: 160670009A

	Tetramethylene glycol
8262928	54
8262929	52
8262930	49
8262931	56
8262932	54
8262933	55
8262934	50
8262935	47
8262936	51
8262937	59
8262938	108
8262939	100
Blank	55
LCS	109
MS	108
MSD	100
Limits:	36-143

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635590 Sample # 8262928-41

p. 3 of 4

COC # 491599

Client Information

Client: 10302 Norfolk Southern Via Amec Foster Wheeler	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: John Jolly	P.O. #:
Sampler: Tanya Kinnard / Terrell Parker	Quote #:
State where samples were collected: GA	For Compliance: Yes ☑ No ☐

Matrix: Sediment ☐ Soil ☒ Water: Ground ☐ Potable ☐ NPDES ☐ Surface ☐ Other: ____

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs 8260C Kit (0)	PCBs 8082A, SVOAs by 8270C, metals 8000B (4°C)	Explosives 8330B (4°C)	8015B Ethylene Glycol (4°C)	VOCs 8260C Trip Blank (0)						Remarks
SBO-01-12-14-022616	2-26-16	12:25	✓		✓			6	✓	✓	✓	✓							SVOC+metals 1 in C17648
SBO-05-0-2-022616	2-26-16	17:00	✓		✓			6	✓	✓	✓	✓	✓						Vanessa Coolee #C24815
SBO-05-6-8-022616	2-26-16	17:30	✓		✓			6	✓	✓	✓	✓	✓						
SBO-05-12-14-022616	2-26-16	17:45	✓		✓			6	✓	✓	✓	✓	✓						
SBO-Dup-6-022616	2-26-16	12:00	✓		✓			6	✓	✓	✓	✓	✓						
SB-Dup-5-022616	2-26-16	12:00	✓		✓			6	✓	✓	✓	✓	✓						
SBO-06-0-2-022616	2-26-16	17:30	✓		✓			6	✓	✓	✓	✓							
SBO-06-2-4-022616	2-26-16	17:40	✓		✓			6	✓	✓	✓	✓							
SBO-06-6-8-022616	2-26-16	18:10	✓		✓			6	✓	✓	✓	✓							
SBO-06-12-14-022616	2-26-16	18:30	✓		✓			6	✓	✓	✓	✓							

2-26-16

For Lab Use Only

FSC: ____

SCR#: ____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: tanya.Kinnard@amecfw.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
James D. Parker [signature]	2-26-16	19:37			
			Kristin Abel	2/2/16	0950

EDD Required? Yes No

If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 0.5 °C

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Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1635590 Sample # 8262928 P. 4 of 4 L41

COC # 491596

Client Information

Client: 10302 Norfolk Southern Via Amec Foster Wheeler

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: John Jolly

P.O. #:

Sampler: Tanya Kinnard / Terrell Parker

Quote #:

State where samples were collected: GA

For Compliance: Yes ☑ No ☐

Matrix: Sediment ☐ Soil ☒ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other:

Analysis Requested

Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Water	Other	Total # of Containers	VOCs 8260C Kit (0)	PCBs 8082A SVOAs by 8270C, METALS, % moist. (4°C)	Explosives 8330B (4°C)	8015B Ethylene Glycol (4°C)	VOCs 8260C Trip Blank (0)						Remarks
SBO-06-12-14-022616 MS	2-26-16	18:30	✓		✓			6	✓	✓	✓	✓							SVOC + METALS in Cooler C17648
SBO-06-12-14-022616 MSD	2-26-16	18:30	✓		✓			6	✓	✓	✓	✓							VOAs in Cooler # C24815
Trip Blank-02-022616	2-26-16	18:18	✓			✓							✓						

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: tanya.kinnard@amecfw.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
James Parker [signature]	2-26-16	19:37			
			Krista Abel	2/27/16	0950

EDD Required? Yes No

If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 0.5-1.2 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 137695

Group Number(s): 1635590

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	02/27/2016 9:50
Number of Packages:	4	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Trip Blank Type(s): sodium bisulfate

Unpacked by Krista Abel (3058) at 12:01 on 02/27/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.2	DT	Wet	Y	Bagged	N
2	DT131	1.1	DT	Wet	Y	Bagged	N
3	DT131	1.0	DT	Wet	Y	Bagged	N
4	DT131	0.5	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
SB-9-2-4-022616	5	6	Rec'd 1 vial empty.
SB-DUP-5-022616	5	6	Rec'd 1 vial empty.

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
SBO-06-2-4-022616	2/26/2016 17:30	On bottles only.

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: July 12, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 06/23/2016
Group Number: 1675925
SDG: FCP01
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
DT-5-50-0-2-062116 Grab Soil	8444319
DT-DUP1-062116 Grab Soil	8444320
DT-5-50-2-4-062216 Grab Soil	8444321
TRIPBLANK-1-062216 Sodium Bisulfate	8444322
DT-1B-0-2-062216 Grab Soil	8444323
DT-6-35-0-2-062116 Grab Soil	8444324
DT-6-35-2-4-062116 Grab Soil	8444325
DT-6-35-2-4-062116-MS Grab Soil	8444326
DT-4-50-2-4-062216 Grab Soil	8444327
DT-4-100-0-2-062216 Grab Soil	8444328
DT-12B-0-2-062216 Grab Soil	8444329
DT-12B-2-4-062216 Grab Soil	8444330
DT-11B-0-2-062216 Grab Soil	8444331
DT-11B-2-4-062216 Grab Soil	8444332
DT-10B-0-2-062216 Grab Soil	8444333
DT-10B-2-3.5-062216 Grab Soil	8444334

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1675925

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Batch #: A161831AA (Sample number(s): 8444320, 8444322, 8444325-8444326 UNSPK: 8444325)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Tetrachloroethene

SW-846 8270D, GC/MS Semivolatiles

Batch #: 16178SLD026 (Sample number(s): 8444324-8444325, 8444327-8444328 UNSPK: P445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(a)pyrene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Benzo(a)pyrene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) MSD

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Sample #s: 8444325, 8444327, 8444331, 8444332, 8444333, 8444334

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Batch #: 161820019A (Sample number(s): 8444325, 8444327, 8444331-8444334 UNSPK: P445785)

The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: PCB-1016, PCB-1260

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: PCB-1016

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCS

SW-846 6010C, Metals

Batch #: 161800637002 (Sample number(s): 8444319, 8444321, 8444323-8444325, 8444327-8444334 UNSPK: 8444325 BKG: 8444325)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Lead, Manganese, Zinc, Copper

SW-846 6020A, Metals

Batch #: 161800637002A (Sample number(s): 8444319, 8444321, 8444323-8444325, 8444327-8444328, 8444330-8444331, 8444334 UNSPK: 8444325 BKG: 8444325)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Arsenic, Chromium

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Antimony, Arsenic, Chromium

SM 2540 G-1997, Wet Chemistry

Batch #: 16182820004B (Sample number(s): 8444319-8444321, 8444323-8444334 BKG: 8444325-8444326)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture, Moisture, Moisture Duplicate

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Analysis Report

Sample Description: DT-5-50-0-2-062116 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444319
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/21/2016 16:50 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC101 SDG#: FCP01-01

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles		**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Tetrachloroethene		127-18-4	2,600	270	54	49.31
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	30.9	1.65	0.190	1
06955	Lead		7439-92-1	50.9	2.47	0.454	1
06958	Manganese		7439-96-5	394	0.825	0.0684	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	0.828	0.330	0.0810	2
06128	Cadmium		7440-43-9	0.182	0.165	0.0320	2
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	9.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R161811AA	06/29/2016	09:51	Anita M Dale	49.31
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201617641618	06/21/2016	16:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201617641618	06/21/2016	16:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201617641618	06/21/2016	16:50	Client Supplied	1
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016	17:16	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016	22:17	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016	17:16	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	161800637002A	06/30/2016	06:50	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	161800637002A	06/30/2016	06:50	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016	06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016	14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-DUP1-062116 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444320
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/21/2016 12:00 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

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FC102 SDG#: FCP01-02FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Tetrachloroethene	127-18-4	29	5	1	0.89
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A161831AA	07/01/2016 11:04	Jennifer K Howe	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201617641618	06/21/2016 12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201617641618	06/21/2016 12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201617641618	06/21/2016 12:00	Client Supplied	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-5-50-2-4-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444321
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 15:54 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC103 SDG#: FCP01-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	25.3	2.38	0.437	1
06958	Manganese	7439-96-5	458	0.794	0.0659	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.317	0.317	0.0779	2
06128	Cadmium	7440-43-9	< 0.159	0.159	0.0308	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016 22:21	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016 17:19	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	161800637002A	06/30/2016 06:52	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	161800637002A	06/30/2016 06:52	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016 06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: TRIPBLANK-1-062216 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8444322
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 17:09

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC104 SDG#: FCP01-04TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Tetrachloroethene	127-18-4	< 5	5	1	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A161831AA	07/01/2016 09:34	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201617641618	06/22/2016 17:09	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201617641618	06/22/2016 17:09	Client Supplied	1

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Analysis Report

Sample Description: DT-1B-0-2-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444323
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 11:30 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
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Atlanta GA 30309

FC105 SDG#: FCP01-05

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	77.7	2.10	0.241	1
06955	Lead		7439-92-1	126	3.15	0.577	1
06958	Manganese		7439-96-5	512	1.05	0.0871	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	1.77	0.420	0.103	2
06125	Arsenic		7440-38-2	34.0	0.839	0.155	2
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	5.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016 17:23	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016 22:24	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016 17:23	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	161800637002A	06/30/2016 06:59	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	161800637002A	06/30/2016 06:59	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016 06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

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Analysis Report

Sample Description: DT-6-35-0-2-062116 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444324
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/21/2016 15:00 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
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FC106 SDG#: FCP01-06

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	240	180	35	10
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead		7439-92-1	58.9	2.43	0.445	1
06958	Manganese		7439-96-5	274	0.809	0.0672	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic		7440-38-2	10.8	0.648	0.119	2
06141	Selenium		7782-49-2	< 0.648	0.648	0.0707	2
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	6.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016	01:23	William H Saadeh	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016	09:15	Michelle A Newswanger	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016	22:28	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016	17:26	Suzanne M Will	1
06125	Arsenic	SW-846 6020A	1	161800637002A	06/30/2016	07:02	Scott P Cuff	2
06141	Selenium	SW-846 6020A	1	161800637002B	06/30/2016	07:02	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016	06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016	14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: DT-6-35-2-4-062116 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444325
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/21/2016 15:30 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
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FC107 SDG#: FCP01-07BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Tetrachloroethene	127-18-4	9	5	0.9	0.83
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene	50-32-8	250	19	4	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	4.0	1
10885	PCB-1221	11104-28-2	< 19	19	5.1	1
10885	PCB-1232	11141-16-5	< 19	19	8.9	1
10885	PCB-1242	53469-21-9	< 19	19	3.7	1
10885	PCB-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	62	19	3.7	1
10885	PCB-1260	11096-82-5	< 19	19	5.5	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	30.3	2.06	0.237	1
06955	Lead	7439-92-1	52.0	3.09	0.566	1
06958	Manganese	7439-96-5	343	1.03	0.0854	1
06961	Nickel	7440-02-0	10.7	2.06	0.309	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06131	Chromium	7440-47-3	16.5	0.823	0.122	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-6-35-2-4-062116 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444325
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/21/2016 15:30 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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FC107 SDG#: FCP01-07BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A161831AA	07/01/2016	10:42	Jennifer K Howe	0.83
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201617641618	06/21/2016	15:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201617641618	06/21/2016	15:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201617641618	06/21/2016	15:30	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016	01:49	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016	09:15	Michelle A Newswanger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161820019A	07/04/2016	03:05	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	161820019A	07/01/2016	09:00	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016	16:32	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016	21:30	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016	16:32	Suzanne M Will	1
06961	Nickel	SW-846 6010C	1	161800637002	06/30/2016	16:32	Suzanne M Will	1
06131	Chromium	SW-846 6020A	1	161800637002A	06/30/2016	06:36	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016	06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016	14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-6-35-2-4-062116-MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444326
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/21/2016 15:30 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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FC107 SDG#: FCP01-07MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Tetrachloroethene	127-18-4	48	5	0.9	0.82
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	10.8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	9.3	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A161831AA	07/01/2016 13:23	Jennifer K Howe	0.82
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201617641618	06/21/2016 15:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201617641618	06/21/2016 15:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201617641618	06/21/2016 15:30	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: DT-4-50-2-4-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444327
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 12:56 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC108 SDG#: FCP01-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene	50-32-8	< 20	20	4	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.2	1
10885	PCB-1221	11104-28-2	< 20	20	5.4	1
10885	PCB-1232	11141-16-5	< 20	20	9.4	1
10885	PCB-1242	53469-21-9	< 20	20	3.9	1
10885	PCB-1248	12672-29-6	< 20	20	3.9	1
10885	PCB-1254	11097-69-1	< 20	20	3.9	1
10885	PCB-1260	11096-82-5	< 20	20	5.7	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	23.3	2.32	0.267	1
06955	Lead	7439-92-1	21.7	3.48	0.639	1
06958	Manganese	7439-96-5	287	1.16	0.0964	1
06972	Zinc	7440-66-6	76.4	4.65	0.790	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.465	0.465	0.114	2
06125	Arsenic	7440-38-2	5.36	0.929	0.171	2
06128	Cadmium	7440-43-9	< 0.232	0.232	0.0451	2
06131	Chromium	7440-47-3	42.1	0.929	0.137	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	15.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016 02:14	William H Saadeh	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-4-50-2-4-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444327
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 12:56 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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Atlanta GA 30309

FC108 SDG#: FCP01-08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016	09:15	Michelle A Newswanger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161820019A	07/04/2016	03:17	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	161820019A	07/01/2016	09:00	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016	17:30	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016	22:31	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016	17:30	Suzanne M Will	1
06972	Zinc	SW-846 6010C	1	161800637002	06/30/2016	17:30	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	161800637002A	06/30/2016	07:04	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	161800637002A	06/30/2016	07:04	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	161800637002A	06/30/2016	07:04	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	161800637002A	06/30/2016	07:04	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016	06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016	14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-4-100-0-2-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444328
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 13:10 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC109 SDG#: FCP01-09

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	3,200	19	4	1
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead		7439-92-1	387	15.5	2.85	5
06958	Manganese		7439-96-5	1,670	5.17	0.429	5
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic		7440-38-2	23.0	0.828	0.153	2
06141	Selenium		7782-49-2	1.05	0.828	0.0904	2
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	10.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016	02:40	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016	09:15	Michelle A Newswanger	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016	22:34	Suzanne M Will	5
06958	Manganese	SW-846 6010C	1	161800637002	07/01/2016	22:34	Suzanne M Will	5
06125	Arsenic	SW-846 6020A	1	161800637002A	06/30/2016	07:06	Scott P Cuff	2
06141	Selenium	SW-846 6020A	1	161800637002B	06/30/2016	07:06	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016	06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016	14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-12B-0-2-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444329
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 09:10 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC110 SDG#: FCP01-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	47.2	1.52	0.175	1
06955	Lead	7439-92-1	102	11.4	2.09	5
06958	Manganese	7439-96-5	1,420	3.80	0.315	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016 17:37	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016 22:45	Suzanne M Will	5
06958	Manganese	SW-846 6010C	1	161800637002	07/01/2016 22:45	Suzanne M Will	5
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016 06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-12B-2-4-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444330
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 09:20 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC111 SDG#: FCP01-11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	24.4	2.18	0.251	1
06955	Lead	7439-92-1	17.3	3.27	0.600	1
06958	Manganese	7439-96-5	250	1.09	0.0905	1
06961	Nickel	7440-02-0	19.9	2.18	0.327	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.436	0.436	0.107	2
06128	Cadmium	7440-43-9	< 0.218	0.218	0.0423	2
06131	Chromium	7440-47-3	37.0	0.872	0.129	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016 17:47	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016 22:48	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016 17:47	Suzanne M Will	1
06961	Nickel	SW-846 6010C	1	161800637002	06/30/2016 17:47	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	161800637002A	06/30/2016 07:09	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	161800637002A	06/30/2016 07:09	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	161800637002A	06/30/2016 07:09	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016 06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-11B-0-2-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444331
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 09:48 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC112 SDG#: FCP01-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 88	88	19	5
10885	PCB-1221	11104-28-2	< 88	88	24	5
10885	PCB-1232	11141-16-5	< 88	88	41	5
10885	PCB-1242	53469-21-9	< 88	88	17	5
10885	PCB-1248	12672-29-6	< 88	88	17	5
10885	PCB-1254	11097-69-1	130	88	17	5
10885	PCB-1260	11096-82-5	< 88	88	25	5

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	276	1.57	0.181	1
06955	Lead	7439-92-1	95.1	2.36	0.432	1
06958	Manganese	7439-96-5	490	0.786	0.0652	1
06961	Nickel	7440-02-0	30.6	1.57	0.236	1
06972	Zinc	7440-66-6	137	3.14	0.534	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.80	0.314	0.0772	2
06128	Cadmium	7440-43-9	0.427	0.157	0.0305	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	3.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161820019A	07/04/2016 03:40	Kirby B Turner	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	161820019A	07/01/2016 09:00	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016 17:50	Suzanne M Will	1

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Analysis Report

Sample Description: DT-11B-0-2-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444331
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 09:48 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC112 SDG#: FCP01-12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016 22:51	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016 17:50	Suzanne M Will	1
06961	Nickel	SW-846 6010C	1	161800637002	06/30/2016 17:50	Suzanne M Will	1
06972	Zinc	SW-846 6010C	1	161800637002	06/30/2016 17:50	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	161800637002A	06/30/2016 07:11	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	161800637002A	06/30/2016 07:11	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016 06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-11B-2-4-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444332
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 09:54 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC113 SDG#: FCP01-13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.8	1
10885	PCB-1221	11104-28-2	< 18	18	4.8	1
10885	PCB-1232	11141-16-5	< 18	18	8.4	1
10885	PCB-1242	53469-21-9	< 18	18	3.5	1
10885	PCB-1248	12672-29-6	< 18	18	3.5	1
10885	PCB-1254	11097-69-1	< 18	18	3.5	1
10885	PCB-1260	11096-82-5	< 18	18	5.1	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	11.5	2.56	0.470	1
06958	Manganese	7439-96-5	393	0.854	0.0709	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161820019A	07/04/2016 03:51	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	161820019A	07/01/2016 09:00	Michelle A Newswanger	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016 22:55	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016 17:53	Suzanne M Will	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016 06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016 14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: DT-10B-0-2-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444333
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 09:59 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC114 SDG#: FCP01-14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	3.9	1
10885	PCB-1221	11104-28-2	< 19	19	5.0	1
10885	PCB-1232	11141-16-5	< 19	19	8.7	1
10885	PCB-1242	53469-21-9	< 19	19	3.6	1
10885	PCB-1248	12672-29-6	< 19	19	3.6	1
10885	PCB-1254	11097-69-1	< 19	19	3.6	1
10885	PCB-1260	11096-82-5	< 19	19	5.3	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	30.9	1.95	0.224	1
06955	Lead	7439-92-1	44.2	2.93	0.537	1
06958	Manganese	7439-96-5	470	0.976	0.0810	1
06972	Zinc	7440-66-6	83.7	3.90	0.664	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	8.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161820019A	07/04/2016	04:03	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	161820019A	07/01/2016	09:00	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016	17:57	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016	22:58	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016	17:57	Suzanne M Will	1
06972	Zinc	SW-846 6010C	1	161800637002	06/30/2016	17:57	Suzanne M Will	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016	06:40	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016	14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: DT-10B-2-3.5-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444334
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 10:07 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC115 SDG#: FCP01-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	3.9	1
10885	PCB-1221	11104-28-2	< 19	19	5.0	1
10885	PCB-1232	11141-16-5	< 19	19	8.8	1
10885	PCB-1242	53469-21-9	< 19	19	3.6	1
10885	PCB-1248	12672-29-6	< 19	19	3.6	1
10885	PCB-1254	11097-69-1	< 19	19	3.6	1
10885	PCB-1260	11096-82-5	< 19	19	5.4	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	8.05	1.00	0.120	1
06953	Copper	7440-50-8	42.8	2.00	0.230	1
06955	Lead	7439-92-1	64.9	3.00	0.551	1
06958	Manganese	7439-96-5	504	1.00	0.0831	1
06961	Nickel	7440-02-0	9.88	2.00	0.300	1
06972	Zinc	7440-66-6	109	4.00	0.681	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.400	0.400	0.0983	2
06125	Arsenic	7440-38-2	5.56	0.801	0.148	2
06128	Cadmium	7440-43-9	0.218	0.200	0.0388	2
06131	Chromium	7440-47-3	26.5	0.801	0.118	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.144	0.103	0.0103	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.2	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: DT-10B-2-3.5-062216 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8444334
LL Group # 1675925
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/22/2016 10:07 by TP

Submitted: 06/23/2016 09:30
Reported: 07/12/2016 16:14

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC115 SDG#: FCP01-15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161820019A	07/04/2016	04:14	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	161820019A	07/01/2016	09:00	Michelle A Newswanger	1
06952	Cobalt	SW-846 6010C	1	161800637002	06/30/2016	18:00	Suzanne M Will	1
06953	Copper	SW-846 6010C	1	161800637002	06/30/2016	18:00	Suzanne M Will	1
06955	Lead	SW-846 6010C	1	161800637002	07/01/2016	23:01	Suzanne M Will	1
06958	Manganese	SW-846 6010C	1	161800637002	06/30/2016	18:00	Suzanne M Will	1
06961	Nickel	SW-846 6010C	1	161800637002	06/30/2016	18:00	Suzanne M Will	1
06972	Zinc	SW-846 6010C	1	161800637002	06/30/2016	18:00	Suzanne M Will	1
06124	Antimony	SW-846 6020A	1	161800637002A	06/30/2016	07:14	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	161800637002A	06/30/2016	07:14	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	161800637002A	06/30/2016	07:14	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	161800637002A	06/30/2016	07:14	Scott P Cuff	2
00159	Mercury	SW-846 7471B	1	161800638002	06/30/2016	10:13	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161800637002	06/29/2016	06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638002	06/29/2016	10:30	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16182820004B	06/30/2016	14:49	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1675925
Reported: 07/12/2016 16:14

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: A161831AA	Sample number(s): 8444320,8444322,8444325-8444326		
Tetrachloroethene	< 5	5	1
Batch number: R161811AA	Sample number(s): 8444319		
Tetrachloroethene	< 250	250	50
Batch number: 16178SLD026	Sample number(s): 8444324-8444325,8444327-8444328		
Benzo(a)pyrene	< 17	17	3
Batch number: 161820019A	Sample number(s): 8444325,8444327,8444331-8444334		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	mg/kg	mg/kg	mg/kg
Batch number: 161800637002	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444334		
Cobalt	< 1.00	1.00	0.120
Copper	< 2.00	2.00	0.230
Lead	< 3.00	3.00	0.550
Manganese	< 1.00	1.00	0.0830
Nickel	< 2.00	2.00	0.300
Zinc	< 4.00	4.00	0.680
Batch number: 161800637002A	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444328,8444330-8444331,8444334		
Antimony	< 0.400	0.400	0.0982
Arsenic	< 0.800	0.800	0.148
Cadmium	< 0.200	0.200	0.0388
Chromium	< 0.800	0.800	0.118
Batch number: 161800637002B	Sample number(s): 8444324,8444328		
Selenium	< 0.800	0.800	0.0874
Batch number: 161800638002	Sample number(s): 8444334		
Mercury	< 0.100	0.100	0.0100

LCS/LCSD

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 07/12/2016 16:14

Group Number: 1675925

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A161831AA	Sample number(s): 8444320,8444322,8444325-8444326								
Tetrachloroethene	20	21.01	20	20.43	105	102	78-120	3	30
Batch number: R161811AA	Sample number(s): 8444319								
Tetrachloroethene	1000	954.46	1000	1070.19	95	107	78-120	11	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16178SLD026	Sample number(s): 8444324-8444325,8444327-8444328								
Benzo(a)pyrene	1666.67	1590.98			95		85-117		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 161820019A	Sample number(s): 8444325,8444327,8444331-8444334								
PCB-1016	168	255.87			152*		76-121		
PCB-1260	168	272.04			162*		79-130		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161800637002	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444334								
Cobalt	50	52.85			106		80-120		
Copper	25	27.02			108		80-120		
Lead	15	15.95			106		80-120		
Manganese	50	52.25			105		80-120		
Nickel	50	53.06			106		80-120		
Zinc	50	51.4			103		80-120		
Batch number: 161800637002A	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444328,8444330-8444331,8444334								
Antimony	0.600	0.714			119		80-120		
Arsenic	1.00	1.09			109		80-120		
Cadmium	0.500	0.543			109		80-120		
Chromium	5.00	5.53			111		80-120		
Batch number: 161800637002B	Sample number(s): 8444324,8444328								
Selenium	1.00	1.04			104		80-120		
Batch number: 161800638002	Sample number(s): 8444334								
Mercury	0.100	0.0945			95		80-120		
	%	%	%	%					
Batch number: 16182820004B	Sample number(s): 8444319-8444321,8444323-8444334								
Moisture	89.5	89.44			100		99-101		
Moisture	89.5	89.44			100		99-101		
Moisture Duplicate	89.5	89.44			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1675925
Reported: 07/12/2016 16:14

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A161831AA	Sample number(s): 8444320,8444322,8444325-8444326 UNSPK: 8444325									
Tetrachloroethene	8.00	16.45	42.48			210*		78-120		
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16178SLD026	Sample number(s): 8444324-8444325,8444327-8444328 UNSPK: P445785									
Benzo(a)pyrene	51.76	1650.17	881.7	1644.74	441.93	50*	24*	85-117	66*	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 161820019A	Sample number(s): 8444325,8444327,8444331-8444334 UNSPK: P445785									
PCB-1016	< 17	168	134.04	167	119.18	80	71*	76-121	12	50
PCB-1260	< 17	168	153.5	166	132.49	91	80	79-130	15	50
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161800637002	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444334 UNSPK: 8444325, P444325									
Cobalt	4.82	34.72	37.51	42.02	45.16	94	96	75-125	19	20
Copper	27.03	17.36	53.7	21.01	50.81	154*	113	75-125	6	20
Lead	46.35	10.42	65.09	12.61	63.95	180 (2)	140*	75-125	2	20
Manganese	305.9	34.72	320.43	42.02	293.45	42 (2)	-30 (2)	75-125	9	20
Nickel	9.56	34.72	50.63	42.02	52.3	118	102	75-125	3	20
Zinc	112.49	34.72	136.11	42.02	134.44	68*	52*	75-125	1	20
Batch number: 161800637002A	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444328,8444330-8444331,8444334 UNSPK: 8444325, P444325									
Antimony	0.361	0.833	0.666	1.01	0.882	37*	52*	75-125	28*	20
Arsenic	5.96	1.39	7.53	1.68	9.39	113 (2)	204*	75-125	22*	20
Cadmium	0.178	0.694	0.933	0.840	1.14	109	114	75-125	20	20
Chromium	14.76	6.94	25.53	8.40	55.66	155*	487*	75-125	74*	20
Batch number: 161800637002B	Sample number(s): 8444324,8444328 UNSPK: P444325									
Selenium	0.294	1.39	1.58	1.68	1.93	93	97	75-125	20	20
Batch number: 161800638002	Sample number(s): 8444334 UNSPK: P441710									
Mercury	0.186	0.155	0.365	0.157	0.317	115	83	80-120	14	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 161800637002	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444334 BKG: 8444325, P444325			
Cobalt	4.82	4.66	3	20

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1675925
Reported: 07/12/2016 16:14

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Copper	27.03	27.25	1	20
Lead	46.35	47.73	3	20
Manganese	305.9	275.6	10	20
Nickel	9.56	9.66	1	20
Zinc	112.49	101.33	10	20
Batch number: 161800637002A	Sample number(s): 8444319,8444321,8444323-8444325,8444327-8444328,8444330-8444331,8444334 BKG: 8444325, P444325			
Antimony	0.361	0.321	12 (1)	20
Arsenic	5.96	6.84	14	20
Cadmium	0.178	0.157	12 (1)	20
Chromium	14.76	15.95	8	20
Batch number: 161800637002B	Sample number(s): 8444324,8444328 BKG: P444325			
Selenium	0.294	0.298	1 (1)	20
Batch number: 161800638002	Sample number(s): 8444334 BKG: P441710			
Mercury	0.186	0.162	14 (1)	20
	%	%		
Batch number: 16182820004B	Sample number(s): 8444319-8444321,8444323-8444334 BKG: P444325, P444326			
Moisture	10.77	9.32	14*	5
Moisture	10.77	9.32	14*	5
Moisture Duplicate	10.77	9.32	14*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Soil Master
Batch number: A161831AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8444320	104	109	101	93
8444322	102	106	102	96
8444325	103	109	101	95
8444326	103	104	105	95
Blank	100	94	104	94
LCS	102	102	103	99
LCSD	102	102	103	99
MS	103	104	105	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R161811AA

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1675925
Reported: 07/12/2016 16:14

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8444319	78	78	77	78
Blank	89	93	92	88
LCS	90	90	93	94
LCSD	105	104	105	105
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 16178SLD026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8444324	88	90	97	89	102	92
8444325	89	94	96	93	93	91
8444327	86	90	93	94	91	88
8444328	70	67	66	83	83	82
Blank	92	98	108	94	89	100
LCS	88	91	112	90	90	97
MS	70	68	61	79	80	78
MSD	38*	36*	34*	47*	44*	42*
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: PCBs 8082A
Batch number: 161820019A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8444325	97	85
8444327	111	100
8444331	102	110
8444332	112	100
8444333	84	78
8444334	92	86
Blank	115	101
LCS	164*	143
MS	93	90
MSD	81	81
Limits:	53-140	45-143

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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Lancaster Laboratories Environmental

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Acct. # 10302 Group # 1675925 Sample # 8444319-34

COC # 503829

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former COHN Property	PWSID #:
Project Manager: Steven Aufdenkampe	P.O. #: SA14.127-001
Sampler: Terrell Parker + Ferdinand Mayila	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Soil ☑ Sediment ☐ Tissue ☐ Water ☐ Potable ☐ Ground ☐ NPDES ☐ Surface Other:

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Metals 6010C Cu, Pb, Mn	Metals 6020 Sb, Cd	Vocs (see only) 8260B	Metals 6010C Pb, Mn							Remarks
DT-5-50-0-2-062116	6-21-16	16:50	✓		✓				✓	✓	✓								See attached spreadsheet to confirm metals to be analyzed for each sample
DT-Dup1-062116	6-21-16	12:00	✓		✓				✓	✓	✓								
DT-5-50-2-4-062216	6-22-16	15:54	✓		✓							✓							
TRIP Blank-1-062216	6-22-16	17:09	✓			✓		2			✓								

6-22-16

For Lab Use Only
FSC:
SCR#: 190337

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: _____

Relinquished by	Date	Time	Received by	Date	Time
James T. Parker	6/22/16	18:39			
			Krista Abel	6/23/16	0930

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

EDD Required? Yes No
If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.6 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1675925 Sample # 844319-34

COC # 503830

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: Steven Aufdenkampe	P.O. #: SA14.127-001
Sampler: Terrell Parker + Ferdinand Mayila	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Soil ☑ Sediment ☐ Tissue ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other:

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Metals 6010C Cu, Pb, Mn,	Metals 6020 Sb, As	Metals 6010C Pb, Mn,	Metals 6020 As, Se	Benzo a-pyrene 8270D	Metals 6010C Cu, Pb, Mn, Ni	Metals 6020 Cr	PCBs by 8082	PCE 8260/5035	Metals 6010C Cu, Pb, Mn, Zn	Metals 6020 Sb, As, Cd, Cr
DT-1B-0-2	6-22-16	11:30	✓		✓			1	✓	✓									
DT-6-35-0-2-062116	6-21-16	15:00	✓		✓			1			✓	✓	✓						
DT-6-35-2-4-062116	6-21-16	15:30	✓		✓			9					✓	✓	✓	✓	✓		
DT-4-50-2-4-062216	6-22-16	12:56	✓		✓			1					✓			✓		✓	✓
DT-4-100-0-2-062216	6-22-16	13:10	✓		✓			1			✓	✓	✓						
DT																			

Preservation Codes: H=HCl, N=HNO_3, S=H_2SO_4, T=Thiosulfate, B=NaOH, O=Other, I=ice

Remarks: See Attached Spreadsheet to confirm metals to be analyzed for each sample

~~+ms/msd Vocs only~~ EDD 6-24-16

+ms on Vocs only

6-22-16

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: _____

Relinquished by	Date	Time	Received by	Date	Time
James T Parker	6/22/16	18:39			
			Krista Abel	6/23/16	0930

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

EDD Required? Yes No

If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.6 °C

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0216

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Environmental Analysis Request/Chain of Custody

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Lancaster Laboratories Environmental

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Acct. # 10302 Group # 1675925 Sample # 8444319-34

COC # 503831

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: Amec John Jolly / NS Steven Aufdenkampe	P.O. #: SA14.127-001
Sampler: Terrell Parker / Ferdinand Mayila	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Soil ☑ Sediment ☐ Tissue ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other:

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Metals 6010C Cu, Pb, Mn, Zn	Metals 6010C Cu, Pb, Mn, Ni	Metals 6020 Sb, Cd, Cr	Metals 6010C Cu, Pb, Mn, Ni, Zn	Metals 6020 Sb, Cd	PCBs by 8082A	Metals 6010C Pb, Mn	Hg by 7471	Metals by 6010C Co, Cu, Pb, Mn, Ni, Zn	Metals by 6020 Sb, As, Co, Cr	Remarks
DT-12B-0-2-062216	6/22/16	09:10	✓		✓			1	1 ✓										
DT-12B-2-4-062216	6/22/16	09:20	✓		✓			1		1 ✓	✓								
DT-11B-0-2-062216	6/22/16	09:48	✓		✓			1				1 ✓	✓	✓					
DT-11B-2-4-062216	6/22/16	09:54	✓		✓			1						1 ✓	✓				
DT-10B-0-2-062216	6/22/16	09:59	✓		✓			1						✓		✓			
DT-10B-2-3.5-062216	6/22/16	10:07	✓		✓			1						✓			✓	✓	✓

Preservation Codes: H=HCl, N=HNO_3, S=H_2SO_4, T=Thiosulfate, B=NaOH, O=Other; I=ICE

Remarks: See attached spreadsheet to confirm metals to be analyzed for each sample

6-22-16

Turnaround Time (TAT) Requested (please circle): Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: john.jolly@amecfw.com

Relinquished by	Date	Time	Received by	Date	Time
Edwin Hernandez	6/16/16	1540	[signature] Sample Bottles	6/17/16	15:00
James T. Parker [signature]	6/22/16	18:59			
			Krista Abel TL 1259 6/24/16 [signature]	6/23/16	0930

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) — Type VI (Raw Data Only)

Type III (Reduced non-CLP) — NJ DKQP — TX TRRP-13

NYSDEC Category A or B — MA MCP — CT RCP

EDD Required? Yes No — If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No — (If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.6 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0216

1675925

Katherine Klinefelter

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Thursday, June 23, 2016 12:16 PM
To: Angela Miller
Cc: Katherine Klinefelter
Subject: RE: Norfolk Southern COCs and Airbill
Attachments: COC_01-NS Columbus, GA_062216.docx.pdf; COC_02-NS Columbus, GA_062216.docx.pdf; COC_03-NS Columbus, GA_062216.docx.pdf; NS Columbus - Phase II Soil Analyses.xlsx

Importance: High

Take a look at this table and revised COCs.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Thursday, June 23, 2016 11:01 AM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Cc: Katherine Klinefelter <KatherineKlinefelter@eurofinsus.com>
Subject: RE: Norfolk Southern COCs and Airbill

Thank you.

Angela Miller
Specialist

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601
USA
Phone: +1 717-556-7260

Look for Eurofins Lancaster Laboratories Environmental at these upcoming conferences and industry events.

www.EurofinsUS.com/Env

From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Thursday, June 23, 2016 10:56 AM
To: Angela Miller
Subject: RE: Norfolk Southern COCs and Airbill

The analyses are kind of complicated. I have attached the list we sent to Kathy for analyses to be analyzed at each location and depth.

1675925

In the mean time I will check the COCs with this table to make sure they are correct.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Thursday, June 23, 2016 10:46 AM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Subject: RE: Norfolk Southern COCs and Airbill

Thank you, Judith. I have provided to our sample registration department.

Angela Miller
Specialist

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601
USA
Phone: +1 717-556-7260

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From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Wednesday, June 22, 2016 8:24 PM
To: Angela Miller
Subject: FW: Norfolk Southern COCs and Airbill

Angela,
Kathy's email indicates you are her contact in her absence. I have attached the COCs for the Norfolk Southern Former Cohn Property Soil samples that you should receive on Thursday 6-23-16.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: Hartness, Judy A
Sent: Wednesday, June 22, 2016 8:21 PM
To: 'Katherine Klinefelter' <KatherineKlinefelter@eurofinsus.com>
Cc: Jolly, John <john.jolly@amec.com>; Parker, Terrell <Terrell.Parker@amec.com>; Mayila, Ferdinand K

1675925

<Ferdinand.Mayila@amec.com>
Subject: FW: Norfolk Southern COCs and Airbill

Here are the COCs for the Norfolk Southern Former Cohn Property Soil samples.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360 judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: TP [mailto:jterrell.parker@gmail.com]
Sent: Wednesday, June 22, 2016 7:04 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Subject: Norfolk Southern COCs and Airbill

Judy:
Please forward to Eurofins contact.
Thanks,
Terrell

amec
foster
wheeler

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Norfolk Southern - Former Cohn Property
Phase II Soil Proposed Sampling and Analyses Scope

Location	Metals ICP	Metals ICPMS	Mercury	PCBs	SVOCs	VOCs	QC	QC
ID	6010	6020	7471	8082	8270	8260	MA/MSD	DUP
DT-1B-0-2	Cu,Pb,Mn	Sb,As	--	--	--	--	--	
DT-1B-2-4	Cu,Pb,Mn,Ni	As,Cd,Cr	--	--	--	--	--	
DT-2-0-2	Cu,Pb,Mn	Sb,As	--	--	--	--	--	
DT-2-2-4	Pb,Mn,Ni	Sb, Cd,Cr	--	PCBs	BaP		MS/MSD (All)	
DT-3-0-2	Pb,Mn	--	--	--	--	PCE	--	
DT-3-2-4	Pb,Mn,Ni	Sb, Cd,Cr	--	PCBs	--	--	--	
DT-4-100-0-2	Pb,Mn	As,Se	--	--	BaP	--	--	
DT-4-50-2-4	Cu,Pb,Mn,Zn	Sb,As,Cd,Cr	--	PCBs	BaP	--	--	
DT-5-50-0-2	Cu,Pb,Mn	Sb, Cd	--	--	--	PCE		VOC DUP = DT-DUP-1
DT-5-50-2-4	Pb,Mn	Sb, Cd	--	--	--	--	--	
DT-6-35-0-2	Pb,Mn	As,Se	--	--	BaP	--	--	
DT-6-35-2-4	Cu,Pb,Mn,Ni	Cr	--	PCBs	BaP	PCE	VOC MS/MSD	
DT-7-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd,Cr	Hg	--	BaP	--	--	
DT-7-2-4	Mn	--	--	--	--	--	--	
DT-8-0-2	Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	PCBs	BaP	--	--	
DT-8-2-4	Mn	--	Hg	--	--	--	--	
DT-9-0-2	Cu,Pb,Mn,Ni,Zn	Cd,Cr	Hg	PCBs	BaP	--		Dup (All) = DT-DUP-2
DT-9-2-4	Mn,Zn	As,Cd,Cr	--	PCBs	--	--	--	
DT-10B-0-2	Cu,Pb,Mn,Zn	--	--	PCBs	--	--	--	
DT-10B-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	PCBs	--	--	--	
DT-11B-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd	--	PCBs	--	--	--	
DT-11B-2-4	Pb,Mn	--	--	PCBs	--	--	--	
DT-12B-0-2	Cu,Pb,Mn	--	--	--	--	--	--	
DT-12B-2-4	Cu,Pb,Mn,Ni	Sb, Cd,Cr	--	--	--	--	--	
Background Samples								
BK-1-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-1-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-2-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-2-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-3-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--	MS/MSD (All)	Dup (All)
BK-3-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-4-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-4-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-5-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-5-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-6-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-6-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-7-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-7-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-8-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-8-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-9-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-9-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-10-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		
BK-10-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--	MS/MSD (All)	Dup (All)

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

10302 1675925 844439-34

COC #503829

Client Information

Norfolk Southern

Former Cent. Property

Steven AufdenKampe SAN.121-001

GA

Sample Identification	Collected Date	Collected Time
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Matrix

Analysis Requested

Preservation Codes

Remarks

JAH 06-23-16

Turnaround Time (TAT) Requested

Data Package Options

Environmental Analysis Request/Chain of Custody

eurofins

For Eurofins Lancaster Laboratories Environmental Use Only

Lancaster Laboratories Environmental

Acct. # 10302 Order # 1625925 Sample # 8444319-34

COC # 50383

For Lab Use Only

SDG # 190737

Client Information

Client: Nortex Southern

Project: Former CAHN Property

Sampler: Steven Aufdenkampe

Site/Location: GA

Matrix: Tissue, Sediment, Soil, Drinking Water, Surface Water, Wastewater, Other

Analysis Requested / Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Soil	Drinking Water	Surface Water	Wastewater	Other	Total # of Containers	Metals Cu, Pb, Mn	Metals Cd, Cr, Ni, Zn	Metals Sb, Ag, Se, Tl	Metals Ba, Be, Co, Mo	Metals Al, As, Fe, V	Metals Mg, K, Na	Metals Ca, Li, Sr	Metals B, Sn, Ti	Metals Hg	Metals Sb, Ag, Se, Tl	Metals Cd, Cr, Ni, Zn	Remarks
JAH 06-23-16																							
DT-1B-0-2-062216	6-22-16	11:30	✓		✓						1	✓	✓										
DT-6-35-0-2-062216	6-21-16	15:00	✓		✓						1			✓	✓	✓							
DT-6-35-2-4-062216	6-21-16	15:30	✓		✓						9					✓	✓	✓	✓	✓			
DT-4-50-2-4-062216	6-22-16	12:36	✓		✓						1					✓			✓		✓	✓	
DT-4-100-0-2-062216	6-22-16	13:10	✓		✓						1			✓	✓	✓							

Turnaround Time (TAT) Requested (circle one): Normal

Data Package Options (circle if required): Type I (TPH Level I) Type VI (Raw Data Only) Deliverables-CLP Deliverables non-CLP NJ DKQP PA DWMR MCP Category A or B MA MCP TN EQP

EDD Required: Yes / No

Site Specific QC (MS/MSD/Dup): Yes / No

Relinquished by Commercial Carrier: Yes / No

Temperature upon receipt: °C

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

10302 1675925 8444319-34

COC # 503831

Client Information: Norfolk Southern
Former Cohn Property
John Jolly/Hydrologic
Farrell Parker/Arcadis
GA

Sample Identification | Collected Date | Collected Time | Matrix | Preservation Codes | Analysis Requested

Sample Identification	Date	Time	Matrix	Preservation Codes	Analysis Requested
DT-12B-0-2-062216	6/22/16	09:10			
DT-12B-2-4-062216	6/22/16	09:10			
DT-11B-0-2-062216	6/22/16	09:59			
DT-11B-2-4-062216	6/22/16	09:59			
DT-10B-0-2-062216	6/22/16	08:59			
DT-10B-2-3.5-062216	6/22/16	10:07			

Remarks: 3 of 3 [illegible]

Turnaround Time (TAT) Requested: Standard

Received by: [illegible] Date/Time 1540 Received by: [illegible] Date/Time 6/24/16 15:00

Received by: [illegible] Date/Time 6/24/16 18:30

Email results to: jolly@geotech.com

Data Package Options

Type VI (Raw Data Only)

Type I (Full)

Type III (Reduced)

Type IV (Exceptions Only)

Results in Category B or B

NELAP

CLP Region

Type of Deliverable Required

EDD Required: Yes No

Field Name: EDD

Site Specific QC (MS/MSD/DUP): Yes No

Temperature Upon Receipt: °C

Page 39 of 44

1675925

Katherine Klinefelter

From:	Hartness, Judy A <judy.hartness@amecfw.com>
Sent:	Tuesday, June 28, 2016 5:58 PM
To:	Katherine Klinefelter
Cc:	Barker, Michelle; Mayila, Ferdinand K
Subject:	RE: 1675925-Former Cohn Property/Columbus, GA-06/23/2016 9:30:00 Acknowledgement
Attachments:	EAcknow_1675925-jah.xls
Importance:	High

Please add the following tests:
8444333 (DT-10B-0-2-062216): PCBs by 8082, Zinc by SW6010
8444334 (DT-10B-2-3.5-062216): PCBs by 8082

See revised Acknowledgment

Regards,

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: LLAutomatedReportingSystem@eurofins.com [mailto:LLAutomatedReportingSystem@eurofins.com]
Sent: Tuesday, June 28, 2016 5:25 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>
Subject: 1675925-Former Cohn Property/Columbus, GA-06/23/2016 9:30:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

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1675925

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Lancaster Laboratories Environmental

1675925

Account: 10302
Client: Norfolk Southern Railway Co.
Group Number: 1675925
Samples: 8444319-8444334

Submitted: 06/23/16 09:30
P.O. Number: SA14.127-001
Project: Former Cohn Property/C

Release Number: 1440001625
Quote Number: 210900 A
SDG Number: FCP01

Sample #	Description	Collection Date/Time	11995-8260C Soil Master	06124-Antimony	06125-Arsenic	06128-Cadmium	06131-Chromium	06952-Cobalt	06953-Copper	06955-Lead	06958-Manganese	00159-Mercury	00111-Moisture	00118-Moisture	06961-Nickel	10885-PCBs 8082A	10726-SVOA 8270D (microwave)	06141-Selenium	06972-Zinc						
8444319	DT-5-50-0-2-062116 Grab Soil	06/21/16 16:50	X	X		X			X	X	X		X												
8444320	DT-DUP1-062116 Grab Soil	06/21/16 12:00	X										X												
8444321	DT-5-50-2-4-062216 Grab Soil	06/22/16 15:54		X		X				X	X		X												
8444322	TRIP BLANK-1-062216 Sodium Bisulfate	06/22/16 17:09	X																						
8444323	DT-1B-0-2-062216 Grab Soil	06/22/16 11:30		X	X				X	X	X		X												
8444324	DT-6-35-0-2-062116 Grab Soil	06/21/16 15:00			X					X	X		X				X	X							
8444325	DT-6-35-2-4-062116 Grab Soil	06/21/16 15:30	X				X		X	X	X		X		X	X	X								
8444326	DT-6-35-2-4-062116 Grab Soil	06/21/16 15:30	X											X											
8444327	DT-4-50-2-4-062216 Grab Soil	06/22/16 12:56		X	X	X	X		X	X	X		X			X	X		X						
8444328	DT-4-100-0-2-062216 Grab Soil	06/22/16 13:10			X					X	X		X				X	X							
8444329	DT-12B-0-2-062216 Grab Soil	06/22/16 09:10							X	X	X		X												
8444330	DT-12B-2-4-062216 Grab Soil	06/22/16 09:20		X		X	X		X	X	X		X		X										
8444331	DT-11B-0-2-062216 Grab Soil	06/22/16 09:48		X		X			X	X	X		X		X	X			X						
8444332	DT-11B-2-4-062216 Grab Soil	06/22/16 09:54								X	X		X			X									
8444333	DT-10B-0-2-062216 Grab Soil	06/22/16 09:59							X	X	X		X			**X**			**X**						
8444334	DT-10B-2-3.5-062216 Grab Soil	06/22/16 10:07		X	X	X	X	X	X	X	X	X	X		X	**X**			X						

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Sample Administration Receipt Documentation Log

Doc Log ID: 151418

Group Number(s): 1675925

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	06/23/2016 9:30
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): Sodium Bisulfate

Unpacked by Krista Abel (3058) at 13:23 on 06/23/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.6	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: July 12, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 06/25/2016
Group Number: 1676229
SDG: FCP02
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
DT-3-40-0-2-062316 Grab Soil	8445765
DT-3-40-2-4-062316 Grab Soil	8445766
EQUIPMENTBLANK-062316 Grab Water	8445767
TRIPBLANK-2-062316 Sodium Bisulfate	8445768
BK-1-2-4-062316 Grab Soil	8445769
DT-7-40-0-2-062316 Grab Soil	8445770
DT-9-105-0-2-062316 Grab Soil	8445771
DT-DUP3-062316 Grab Soil	8445772
DT9-105-2-4-062316 Grab Soil	8445773
BK-9-0-2-062316 Grab Soil	8445774
BK-9-2-4-062316 Grab Soil	8445775
BK-8-0-2-062316 Grab Soil	8445776
BK-8-2-4-062316 Grab Soil	8445777
BK-10-0-2-062316 Grab Soil	8445778
BK-10-2-4-062316 Grab Soil	8445779
BK-DUP4-062316 Grab Soil	8445780
BK-2-0-2-062316 Grab Soil	8445781
BK-2-2-4-062316 Grab Soil	8445782
BK-5-0-2-062316 Grab Soil	8445783
BK-6-0-2-062316 Grab Soil	8445784
DT-2-120-0-2-062316 Grab Soil	8445785
DT-2-120-0-2-062316-MS Grab Soil	8445786
DT-2-120-0-2-062316-MSD Grab Soil	8445787
DT-2-120-0-2-062316-DUP Grab Soil	8445788
DT-2-120-2-3-062316 Grab Soil	8445789

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1676229

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Batch #: A161831AA (Sample number(s): 8445768 UNSPK: P444325)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Tetrachloroethene

SW-846 8270D, GC/MS Semivolatiles

Batch #: 16178SLD026 (Sample number(s): 8445770-8445772, 8445789 UNSPK: 8445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(a)pyrene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Benzo(a)pyrene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) MSD

Batch #: 16184SLA026 (Sample number(s): 8445785-8445787 UNSPK: 8445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(a)pyrene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) LCSD

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Batch #: 161880028A (Sample number(s): 8445766, 8445771-8445773, 8445785-8445787, 8445789 UNSPK: 8445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: PCB-1016, PCB-1260

SW-846 6010C, Metals

Batch #: 161800635003 (Sample number(s): 8445767 UNSPK: P441007 BKG: P441007)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Nickel

Batch #: 161830637002 (Sample number(s): 8445769, 8445774-8445784 UNSPK: 8445769 BKG: 8445769)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Lead, Manganese

Batch #: 161870637003 (Sample number(s): 8445765-8445766, 8445770-8445773, 8445785-8445789 UNSPK: 8445785 BKG: 8445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Copper, Lead, Manganese, Nickel

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Nickel

SW-846 6020A, Metals

Batch #: 161830637002A (Sample number(s): 8445769, 8445774-8445784 UNSPK: 8445769 BKG: 8445769)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Chromium, Arsenic

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Antimony, Cadmium

Batch #: 161870637003A (Sample number(s): 8445766, 8445770-8445773, 8445785-8445789 UNSPK: 8445785 BKG: 8445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Arsenic, Chromium

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Antimony

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Antimony, Chromium

Batch #: 161870639001A (Sample number(s): 8445767 UNSPK: P458340 BKG: P458340)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Chromium

SW-846 7471B, Metals

Batch #: 161800638001 (Sample number(s): 8445769-8445772, 8445774-8445784 UNSPK: 8445769 BKG: 8445769)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Mercury

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Analysis Report

Sample Description: DT-3-40-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445765
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:52 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC201 SDG#: FCP02-01

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles		**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Tetrachloroethene		127-18-4	12,000	280	56	50.3
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead		7439-92-1	879	3.34	0.613	1
06958	Manganese		7439-96-5	299	1.11	0.0925	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	10.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	R161832AA	07/02/2016	03:19	Kevin A Sposito	50.3
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201618241691	06/23/2016	15:52	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201618241691	06/23/2016	15:52	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201618241691	06/23/2016	15:52	Client Supplied	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016	15:00	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016	15:00	Katlin N Cataldi	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016	09:10	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016	22:44	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-3-40-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445766
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 16:09 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC202 SDG#: FCP02-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 20	20	4.2	1
10885	PCB-1221	11104-28-2	< 20	20	5.4	1
10885	PCB-1232	11141-16-5	< 20	20	9.4	1
10885	PCB-1242	53469-21-9	< 20	20	3.9	1
10885	PCB-1248	12672-29-6	< 20	20	3.9	1
10885	PCB-1254	11097-69-1	< 20	20	3.9	1
10885	PCB-1260	11096-82-5	< 20	20	5.8	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	33.1	3.56	0.653	1
06958	Manganese	7439-96-5	530	1.19	0.0986	1
06961	Nickel	7440-02-0	18.0	2.38	0.356	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.17	0.475	0.117	2
06128	Cadmium	7440-43-9	< 0.238	0.238	0.0461	2
06131	Chromium	7440-47-3	121	0.950	0.140	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	15.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016	05:52	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016	09:15	Michelle A Newswanger	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016	15:03	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016	15:03	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	161870637003	07/07/2016	15:03	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	161870637003A	07/07/2016	05:59	Choon Y Tian	2
06128	Cadmium	SW-846 6020A	1	161870637003A	07/07/2016	05:59	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161870637003A	07/07/2016	05:59	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016	09:10	James L Mertz	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-3-40-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445766
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 16:09 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC202 SDG#: FCP02-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016 22:44	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: EQUIPMENTBLANK-062316 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8445767
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 16:30 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC203 SDG#: FCP02-03EB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Tetrachloroethene	127-18-4	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.40	0.40	0.081	1
10591	PCB-1221	11104-28-2	< 0.40	0.40	0.081	1
10591	PCB-1232	11141-16-5	< 0.40	0.40	0.16	1
10591	PCB-1242	53469-21-9	< 0.40	0.40	0.081	1
10591	PCB-1248	12672-29-6	< 0.40	0.40	0.081	1
10591	PCB-1254	11097-69-1	< 0.40	0.40	0.081	1
10591	PCB-1260	11096-82-5	< 0.40	0.40	0.12	1
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	**mg/l**	
07052	Cobalt	7440-48-4	< 0.0100	0.0100	0.0019	1
07053	Copper	7440-50-8	< 0.0200	0.0200	0.0041	1
07055	Lead	7439-92-1	< 0.0300	0.0300	0.0062	1
07058	Manganese	7439-96-5	< 0.0100	0.0100	0.0018	1
07061	Nickel	7440-02-0	< 0.0200	0.0200	0.0028	1
07072	Zinc	7440-66-6	< 0.0400	0.0400	0.0054	1
	SW-846 6020A		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00048	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00068	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00019	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00059	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00044	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	L161832AA	07/01/2016 13:21	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L161832AA	07/01/2016 13:21	Angela D Sneeringer	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: EQUIPMENTBLANK-062316 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8445767
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 16:30 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC203 SDG#: FCP02-03EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16178WAE026	06/29/2016	21:15	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	16178WAE026	06/28/2016	09:00	Andrea J Kramer	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161770034A	06/28/2016	21:24	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161770034A	06/27/2016	16:30	Ryan A Schafran	1
07052	Cobalt	SW-846 6010C	1	161800635003	06/30/2016	01:04	Matthew R Machtinger	1
07053	Copper	SW-846 6010C	1	161800635003	06/30/2016	01:04	Matthew R Machtinger	1
07055	Lead	SW-846 6010C	1	161800635003	06/30/2016	01:04	Matthew R Machtinger	1
07058	Manganese	SW-846 6010C	1	161800635003	06/30/2016	01:04	Matthew R Machtinger	1
07061	Nickel	SW-846 6010C	1	161800635003	06/30/2016	01:04	Matthew R Machtinger	1
07072	Zinc	SW-846 6010C	1	161800635003	06/30/2016	01:04	Matthew R Machtinger	1
06024	Antimony	SW-846 6020A	1	161870639001A	07/06/2016	14:15	Patrick J Engle	1
06025	Arsenic	SW-846 6020A	1	161870639001A	07/06/2016	14:15	Patrick J Engle	1
06028	Cadmium	SW-846 6020A	1	161870639001A	07/06/2016	14:15	Patrick J Engle	1
06031	Chromium	SW-846 6020A	1	161870639001A	07/06/2016	14:15	Patrick J Engle	1
06041	Selenium	SW-846 6020A	1	161870639001B	07/06/2016	14:15	Patrick J Engle	1
00259	Mercury	SW-846 7470A	1	161835713007	07/07/2016	20:46	Parker D Lindstrom	1
10635	ICP-WW, 3005A (tot rec) - U4	SW-846 3005A	1	161800635003	06/29/2016	05:46	James L Mertz	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161870639001	07/06/2016	06:34	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161835713007	07/06/2016	08:54	James L Mertz	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: TRIPBLANK-2-062316 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8445768
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 17:00

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC204 SDG#: FCP02-04TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	**ug/kg**	
11995	Tetrachloroethene	127-18-4	< 5	5	1	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	8260C Soil Master	SW-846 8260C	1	A161831AA	07/01/2016 09:56	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201618241696	06/23/2016 17:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201618241696	06/23/2016 17:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: BK-1-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445769
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:56 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

FC205 SDG#: FCP02-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.87	0.832	0.0998	1
06953	Copper	7440-50-8	30.7	1.66	0.191	1
06955	Lead	7439-92-1	25.8	2.49	0.457	1
06958	Manganese	7439-96-5	531	0.832	0.0690	1
06961	Nickel	7440-02-0	11.9	1.66	0.249	1
06972	Zinc	7440-66-6	54.8	3.33	0.565	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.333	0.333	0.0817	2
06125	Arsenic	7440-38-2	2.73	0.665	0.123	2
06128	Cadmium	7440-43-9	< 0.166	0.166	0.0323	2
06131	Chromium	7440-47-3	28.1	0.665	0.0983	2
06141	Selenium	7782-49-2	< 0.665	0.665	0.0727	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.119	0.102	0.0102	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	8.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 22:33	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 22:33	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 22:33	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 22:33	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 22:33	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 22:33	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:15	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:15	Choon Y Tian	2

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Analysis Report

Sample Description: BK-1-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445769
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:56 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

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FC205 SDG#: FCP02-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016	05:15	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016	05:15	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016	05:15	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	08:52	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016	07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016	11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016	22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT-7-40-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445770
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:15 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

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FC206 SDG#: FCP02-06

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	93	17	3	1
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	139	2.01	0.231	1
06955	Lead		7439-92-1	23.4	3.01	0.552	1
06958	Manganese		7439-96-5	320	1.00	0.0833	1
06961	Nickel		7440-02-0	5.72	2.01	0.301	1
06972	Zinc		7440-66-6	33.5	4.01	0.682	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	< 0.401	0.401	0.0985	2
06128	Cadmium		7440-43-9	< 0.201	0.201	0.0389	2
06131	Chromium		7440-47-3	5.67	0.803	0.119	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	< 0.102	0.102	0.0102	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	2.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016 03:05	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016 09:15	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161870637003	07/07/2016 15:12	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016 15:12	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016 15:12	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	161870637003	07/07/2016 15:12	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	161870637003	07/07/2016 15:12	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	161870637003A	07/07/2016 06:01	Choon Y Tian	2
06128	Cadmium	SW-846 6020A	1	161870637003A	07/07/2016 06:01	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161870637003A	07/07/2016 06:01	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016 09:20	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016 09:10	James L Mertz	1

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Analysis Report

Sample Description: DT-7-40-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445770
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:15 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

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FC206 SDG#: FCP02-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT-9-105-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445771
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:25 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

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1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC207 SDG#: FCP02-07

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	4,400	180	36	10
Pesticides/PCBs		**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016		12674-11-2	< 18	18	3.9	1
10885	PCB-1221		11104-28-2	< 18	18	5.0	1
10885	PCB-1232		11141-16-5	< 18	18	8.6	1
10885	PCB-1242		53469-21-9	< 18	18	3.6	1
10885	PCB-1248		12672-29-6	< 18	18	3.6	1
10885	PCB-1254		11097-69-1	< 18	18	3.6	1
10885	PCB-1260		11096-82-5	71	18	5.3	1
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	78.2	2.11	0.242	1
06955	Lead		7439-92-1	285	3.16	0.580	1
06958	Manganese		7439-96-5	606	1.05	0.0875	1
06961	Nickel		7440-02-0	16.2	2.11	0.316	1
06972	Zinc		7440-66-6	174	4.22	0.717	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06128	Cadmium		7440-43-9	0.662	0.211	0.0409	2
06131	Chromium		7440-47-3	36.8	0.843	0.125	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	0.166	0.109	0.0109	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	7.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016 03:31	William H Saadeh	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016 09:15	Michelle A Newswanger	1

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Analysis Report

Sample Description: DT-9-105-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445771
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:25 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

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Atlanta GA 30309

FC207 SDG#: FCP02-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016	06:03	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016	09:15	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161870637003	07/07/2016	15:16	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016	15:16	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016	15:16	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	161870637003	07/07/2016	15:16	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	161870637003	07/07/2016	15:16	Katlin N Cataldi	1
06128	Cadmium	SW-846 6020A	1	161870637003A	07/07/2016	06:06	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161870637003A	07/07/2016	06:06	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	09:22	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016	09:10	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016	11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016	22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT-DUP3-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445772
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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FC208 SDG#: FCP02-08FD

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	2,700	180	36	10
Pesticides/PCBs		**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016		12674-11-2	< 18	18	3.9	1
10885	PCB-1221		11104-28-2	< 18	18	5.0	1
10885	PCB-1232		11141-16-5	< 18	18	8.6	1
10885	PCB-1242		53469-21-9	< 18	18	3.6	1
10885	PCB-1248		12672-29-6	< 18	18	3.6	1
10885	PCB-1254		11097-69-1	< 18	18	3.6	1
10885	PCB-1260		11096-82-5	72	18	5.3	1
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	74.4	2.10	0.242	1
06955	Lead		7439-92-1	247	3.15	0.578	1
06958	Manganese		7439-96-5	636	1.05	0.0872	1
06961	Nickel		7440-02-0	31.7	2.10	0.315	1
06972	Zinc		7440-66-6	163	4.20	0.714	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06128	Cadmium		7440-43-9	0.657	0.210	0.0408	2
06131	Chromium		7440-47-3	35.6	0.841	0.124	2
		SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury		7439-97-6	0.204	0.106	0.0106	1
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	7.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016 03:57	William H Saadeh	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016 09:15	Michelle A Newswanger	1

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Analysis Report

Sample Description: DT-DUP3-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445772
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
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FC208 SDG#: FCP02-08FD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016	06:14	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016	09:15	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161870637003	07/07/2016	15:19	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016	15:19	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016	15:19	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	161870637003	07/07/2016	15:19	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	161870637003	07/07/2016	15:19	Katlin N Cataldi	1
06128	Cadmium	SW-846 6020A	1	161870637003A	07/07/2016	06:07	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161870637003A	07/07/2016	06:07	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	09:24	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016	09:10	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016	11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016	22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT9-105-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445773
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:35 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC209 SDG#: FCP02-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 19	19	3.9	1
10885	PCB-1221	11104-28-2	< 19	19	5.0	1
10885	PCB-1232	11141-16-5	< 19	19	8.8	1
10885	PCB-1242	53469-21-9	< 19	19	3.6	1
10885	PCB-1248	12672-29-6	< 19	19	3.6	1
10885	PCB-1254	11097-69-1	< 19	19	3.6	1
10885	PCB-1260	11096-82-5	< 19	19	5.4	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06958	Manganese	7439-96-5	352	1.08	0.0900	1
06972	Zinc	7440-66-6	80.7	4.34	0.737	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	4.88	0.868	0.160	2
06128	Cadmium	7440-43-9	< 0.217	0.217	0.0421	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016	06:26	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016	09:15	Michelle A Newswanger	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016	15:22	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	161870637003	07/07/2016	15:22	Katlin N Cataldi	1
06125	Arsenic	SW-846 6020A	1	161870637003A	07/07/2016	06:09	Choon Y Tian	2
06128	Cadmium	SW-846 6020A	1	161870637003A	07/07/2016	06:09	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016	09:10	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016	22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-9-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445774
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:45 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC210 SDG#: FCP02-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	4.66	1.03	0.123	1
06953	Copper	7440-50-8	58.4	2.05	0.236	1
06955	Lead	7439-92-1	49.0	3.08	0.565	1
06958	Manganese	7439-96-5	298	1.03	0.0852	1
06961	Nickel	7440-02-0	5.93	2.05	0.308	1
06972	Zinc	7440-66-6	55.0	4.11	0.698	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.689	0.411	0.101	2
06125	Arsenic	7440-38-2	7.86	0.821	0.152	2
06128	Cadmium	7440-43-9	< 0.205	0.205	0.0398	2
06131	Chromium	7440-47-3	19.0	0.821	0.121	2
06141	Selenium	7782-49-2	< 0.821	0.821	0.0897	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.113	0.105	0.0105	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.5	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 22:53	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 22:53	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 22:53	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 22:53	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 22:53	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 22:53	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:29	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:29	Choon Y Tian	2

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Analysis Report

Sample Description: BK-9-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445774
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:45 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC210 SDG#: FCP02-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016 05:29	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016 05:29	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016 05:29	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016 09:26	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016 07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-9-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445775
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:55 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC211 SDG#: FCP02-11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.94	0.998	0.120	1
06953	Copper	7440-50-8	32.3	2.00	0.230	1
06955	Lead	7439-92-1	8.75	2.99	0.549	1
06958	Manganese	7439-96-5	308	0.998	0.0828	1
06961	Nickel	7440-02-0	9.72	2.00	0.299	1
06972	Zinc	7440-66-6	41.7	3.99	0.679	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.399	0.399	0.0980	2
06125	Arsenic	7440-38-2	2.40	0.798	0.147	2
06128	Cadmium	7440-43-9	< 0.200	0.200	0.0387	2
06131	Chromium	7440-47-3	19.5	0.798	0.118	2
06141	Selenium	7782-49-2	< 0.798	0.798	0.0872	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.106	0.106	0.0106	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	8.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016	22:56	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016	22:56	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016	22:56	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016	22:56	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016	22:56	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016	22:56	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016	05:31	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016	05:31	Choon Y Tian	2

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Analysis Report

Sample Description: BK-9-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445775
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 13:55 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

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FC211 SDG#: FCP02-11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016	05:31	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016	05:31	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016	05:31	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	09:28	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016	07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016	11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016	22:44	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: BK-8-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445776
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC212 SDG#: FCP02-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.27	0.962	0.115	1
06953	Copper	7440-50-8	38.5	1.92	0.221	1
06955	Lead	7439-92-1	141	2.88	0.529	1
06958	Manganese	7439-96-5	548	0.962	0.0798	1
06961	Nickel	7440-02-0	7.33	1.92	0.288	1
06972	Zinc	7440-66-6	91.1	3.85	0.654	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.30	0.385	0.0944	2
06125	Arsenic	7440-38-2	10.5	0.769	0.142	2
06128	Cadmium	7440-43-9	0.403	0.192	0.0373	2
06131	Chromium	7440-47-3	23.2	0.769	0.114	2
06141	Selenium	7782-49-2	< 0.769	0.769	0.0840	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.701	0.100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	3.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 23:06	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 23:06	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 23:06	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 23:06	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 23:06	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 23:06	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:38	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:38	Choon Y Tian	2

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Analysis Report

Sample Description: BK-8-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445776
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC212 SDG#: FCP02-12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016 05:38	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016 05:38	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016 05:38	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016 09:30	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016 07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006A	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-8-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445777
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:05 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC213 SDG#: FCP02-13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	18.1	5.33	0.640	5
06953	Copper	7440-50-8	21.5	10.7	1.23	5
06955	Lead	7439-92-1	44.3	16.0	2.93	5
06958	Manganese	7439-96-5	3,980	5.33	0.443	5
06961	Nickel	7440-02-0	17.0	10.7	1.60	5
06972	Zinc	7440-66-6	97.0	21.3	3.63	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.427	0.427	0.105	2
06125	Arsenic	7440-38-2	5.46	0.853	0.157	2
06128	Cadmium	7440-43-9	< 0.213	0.213	0.0414	2
06131	Chromium	7440-47-3	36.1	0.853	0.126	2
06141	Selenium	7782-49-2	< 0.853	0.853	0.0932	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.167	0.106	0.0106	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	13.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/06/2016	11:33	Joanne M Gates	5
06953	Copper	SW-846 6010C	1	161830637002	07/06/2016	11:33	Joanne M Gates	5
06955	Lead	SW-846 6010C	1	161830637002	07/06/2016	11:33	Joanne M Gates	5
06958	Manganese	SW-846 6010C	1	161830637002	07/06/2016	11:33	Joanne M Gates	5
06961	Nickel	SW-846 6010C	1	161830637002	07/06/2016	11:33	Joanne M Gates	5
06972	Zinc	SW-846 6010C	1	161830637002	07/06/2016	11:33	Joanne M Gates	5
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016	06:10	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016	06:10	Choon Y Tian	2
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016	06:10	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016	06:10	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016	06:10	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	09:32	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016	07:30	James L Mertz	1

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Analysis Report

Sample Description: BK-8-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445777
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:05 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC213 SDG#: FCP02-13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-10-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445778
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:02 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC214 SDG#: FCP02-14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.49	1.07	0.128	1
06953	Copper	7440-50-8	36.3	2.13	0.245	1
06955	Lead	7439-92-1	24.5	3.20	0.586	1
06958	Manganese	7439-96-5	371	1.07	0.0885	1
06961	Nickel	7440-02-0	12.9	2.13	0.320	1
06972	Zinc	7440-66-6	77.6	4.26	0.725	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.426	0.426	0.105	2
06125	Arsenic	7440-38-2	2.74	0.853	0.157	2
06128	Cadmium	7440-43-9	< 0.213	0.213	0.0414	2
06131	Chromium	7440-47-3	30.2	0.853	0.126	2
06141	Selenium	7782-49-2	< 0.853	0.853	0.0932	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.111	0.111	0.0111	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 23:13	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 23:13	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 23:13	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 23:13	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 23:13	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 23:13	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:43	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:43	Choon Y Tian	2

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Analysis Report

Sample Description: BK-10-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445778
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:02 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC214 SDG#: FCP02-14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016 05:43	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016 05:43	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016 05:43	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016 09:34	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016 07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: BK-10-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445779
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:11 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC215 SDG#: FCP02-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	8.05	1.08	0.129	1
06953	Copper	7440-50-8	32.4	2.15	0.248	1
06955	Lead	7439-92-1	9.66	3.23	0.592	1
06958	Manganese	7439-96-5	201	1.08	0.0894	1
06961	Nickel	7440-02-0	12.6	2.15	0.323	1
06972	Zinc	7440-66-6	47.7	4.31	0.732	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.431	0.431	0.106	2
06125	Arsenic	7440-38-2	2.97	0.861	0.159	2
06128	Cadmium	7440-43-9	< 0.215	0.215	0.0418	2
06131	Chromium	7440-47-3	38.4	0.861	0.127	2
06141	Selenium	7782-49-2	< 0.861	0.861	0.0941	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.103	0.103	0.0103	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016	23:16	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016	23:16	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016	23:16	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016	23:16	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016	23:16	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016	23:16	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016	05:45	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016	05:45	Choon Y Tian	2

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Analysis Report

Sample Description: BK-10-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445779
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:11 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC215 SDG#: FCP02-15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016	05:45	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016	05:45	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016	05:45	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	09:40	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016	07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016	11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016	22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-DUP4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445780
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC216 SDG#: FCP02-16FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	9.08	0.867	0.104	1
06953	Copper	7440-50-8	28.7	1.73	0.199	1
06955	Lead	7439-92-1	8.96	2.60	0.477	1
06958	Manganese	7439-96-5	222	0.867	0.0720	1
06961	Nickel	7440-02-0	10.7	1.73	0.260	1
06972	Zinc	7440-66-6	42.4	3.47	0.590	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.347	0.347	0.0851	2
06125	Arsenic	7440-38-2	1.79	0.694	0.128	2
06128	Cadmium	7440-43-9	< 0.173	0.173	0.0336	2
06131	Chromium	7440-47-3	24.1	0.694	0.102	2
06141	Selenium	7782-49-2	< 0.694	0.694	0.0758	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.110	0.110	0.0110	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	10.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 23:20	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 23:20	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 23:20	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 23:20	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 23:20	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 23:20	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:48	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:48	Choon Y Tian	2

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Analysis Report

Sample Description: BK-DUP4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445780
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

FC216 SDG#: FCP02-16FD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016	05:48	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016	05:48	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016	05:48	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	09:42	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016	07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016	11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016	22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-2-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445781
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:20 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
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FC217 SDG#: FCP02-17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.27	0.917	0.110	1
06953	Copper	7440-50-8	36.2	1.83	0.211	1
06955	Lead	7439-92-1	90.1	2.75	0.504	1
06958	Manganese	7439-96-5	493	0.917	0.0761	1
06961	Nickel	7440-02-0	8.83	1.83	0.275	1
06972	Zinc	7440-66-6	123	3.67	0.624	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.420	0.367	0.0901	2
06125	Arsenic	7440-38-2	4.81	0.734	0.135	2
06128	Cadmium	7440-43-9	0.272	0.183	0.0356	2
06131	Chromium	7440-47-3	25.2	0.734	0.108	2
06141	Selenium	7782-49-2	< 0.734	0.734	0.0802	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.736	0.105	0.0105	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 23:23	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 23:23	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 23:23	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 23:23	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 23:23	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 23:23	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:50	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:50	Choon Y Tian	2

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Analysis Report

Sample Description: BK-2-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445781
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:20 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC217 SDG#: FCP02-17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016 05:50	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016 05:50	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016 05:50	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016 09:44	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016 07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: BK-2-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445782
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:22 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC218 SDG#: FCP02-18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.91	0.842	0.101	1
06953	Copper	7440-50-8	35.9	1.68	0.194	1
06955	Lead	7439-92-1	14.7	2.53	0.463	1
06958	Manganese	7439-96-5	272	0.842	0.0699	1
06961	Nickel	7440-02-0	13.7	1.68	0.253	1
06972	Zinc	7440-66-6	57.9	3.37	0.573	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.337	0.337	0.0827	2
06125	Arsenic	7440-38-2	3.01	0.674	0.124	2
06128	Cadmium	7440-43-9	< 0.168	0.168	0.0327	2
06131	Chromium	7440-47-3	37.2	0.674	0.0996	2
06141	Selenium	7782-49-2	< 0.674	0.674	0.0736	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.113	0.113	0.0113	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 23:26	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 23:26	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 23:26	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 23:26	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 23:26	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 23:26	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:52	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:52	Choon Y Tian	2

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Analysis Report

Sample Description: BK-2-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445782
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:22 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC218 SDG#: FCP02-18

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016 05:52	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016 05:52	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016 05:52	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016 09:46	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016 07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-5-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445783
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:25 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
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Box 13
Atlanta GA 30309

FC219 SDG#: FCP02-19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	3.17	0.741	0.0890	1
06953	Copper	7440-50-8	37.1	1.48	0.170	1
06955	Lead	7439-92-1	63.3	2.22	0.408	1
06958	Manganese	7439-96-5	169	0.741	0.0615	1
06961	Nickel	7440-02-0	7.36	1.48	0.222	1
06972	Zinc	7440-66-6	150	2.97	0.504	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.450	0.297	0.0728	2
06125	Arsenic	7440-38-2	5.54	0.593	0.109	2
06128	Cadmium	7440-43-9	0.454	0.148	0.0288	2
06131	Chromium	7440-47-3	15.9	0.593	0.0876	2
06141	Selenium	7782-49-2	< 0.593	0.593	0.0648	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.102	0.102	0.0102	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 23:29	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 23:29	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 23:29	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 23:29	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 23:29	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 23:29	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:55	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:55	Choon Y Tian	2

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Analysis Report

Sample Description: BK-5-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445783
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:25 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
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Atlanta GA 30309

FC219 SDG#: FCP02-19

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016	05:55	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016	05:55	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016	05:55	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016	09:49	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016	07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016	11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016	22:44	Scott W Freisher	1

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Analysis Report

Sample Description: BK-6-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445784
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:30 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC220 SDG#: FCP02-20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.53	1.02	0.123	1
06953	Copper	7440-50-8	156	2.04	0.235	1
06955	Lead	7439-92-1	293	3.06	0.561	1
06958	Manganese	7439-96-5	221	1.02	0.0847	1
06961	Nickel	7440-02-0	9.86	2.04	0.306	1
06972	Zinc	7440-66-6	387	4.08	0.694	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	7.87	0.408	0.100	2
06125	Arsenic	7440-38-2	51.7	0.817	0.151	2
06128	Cadmium	7440-43-9	9.07	0.204	0.0396	2
06131	Chromium	7440-47-3	40.7	0.817	0.121	2
06141	Selenium	7782-49-2	0.916	0.817	0.0892	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.126	0.102	0.0102	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161830637002	07/05/2016 23:33	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161830637002	07/05/2016 23:33	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010C	1	161830637002	07/05/2016 23:33	Elaine F Stoltzfus	1
06958	Manganese	SW-846 6010C	1	161830637002	07/05/2016 23:33	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010C	1	161830637002	07/05/2016 23:33	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010C	1	161830637002	07/05/2016 23:33	Elaine F Stoltzfus	1
06124	Antimony	SW-846 6020A	1	161830637002A	07/06/2016 05:57	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161830637002A	07/06/2016 05:57	Choon Y Tian	2

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Analysis Report

Sample Description: BK-6-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445784
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 14:30 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
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FC220 SDG#: FCP02-20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	161830637002A	07/06/2016 05:57	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161830637002A	07/06/2016 05:57	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161830637002B	07/06/2016 05:57	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161800638001	06/30/2016 09:51	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161830637002	07/05/2016 07:30	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161800638001	06/29/2016 11:00	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT-2-120-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445785
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:37 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
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FC221 SDG#: FCP02-21BKG

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	61	19	4	1
Pesticides/PCBs		**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016		12674-11-2	< 19	19	3.9	1
10885	PCB-1221		11104-28-2	< 19	19	5.0	1
10885	PCB-1232		11141-16-5	< 19	19	8.8	1
10885	PCB-1242		53469-21-9	< 19	19	3.6	1
10885	PCB-1248		12672-29-6	< 19	19	3.6	1
10885	PCB-1254		11097-69-1	< 19	19	3.6	1
10885	PCB-1260		11096-82-5	< 19	19	5.4	1
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	111	2.17	0.250	1
06955	Lead		7439-92-1	183	3.26	0.597	1
06958	Manganese		7439-96-5	316	1.09	0.0901	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	3.85	0.434	0.107	2
06125	Arsenic		7440-38-2	17.7	0.869	0.160	2
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture		n.a.	8.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16184SLA026	07/06/2016 00:36	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16184SLA026	07/05/2016 08:30	Kayla Yuditsky	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016 06:37	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016 09:15	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161870637003	07/07/2016 14:40	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016 14:40	Katlin N Cataldi	1

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Analysis Report

Sample Description: DT-2-120-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445785
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:37 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
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FC221 SDG#: FCP02-21BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016 14:40	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	161870637003A	07/07/2016 05:49	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161870637003A	07/07/2016 05:49	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016 09:10	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT-2-120-0-2-062316-MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445786
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:37 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC221 SDG#: FCP02-21MS

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	950	18	4	1
Pesticides/PCBs		**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016		12674-11-2	130	18	3.9	1
10885	PCB-1221		11104-28-2	< 18	18	5.0	1
10885	PCB-1232		11141-16-5	< 18	18	8.7	1
10885	PCB-1242		53469-21-9	< 18	18	3.6	1
10885	PCB-1248		12672-29-6	< 18	18	3.6	1
10885	PCB-1254		11097-69-1	< 18	18	3.6	1
10885	PCB-1260		11096-82-5	130	18	5.3	1
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	120	2.17	0.250	1
06955	Lead		7439-92-1	160	3.26	0.597	1
06958	Manganese		7439-96-5	320	1.09	0.0901	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	4.95	0.434	0.107	2
06125	Arsenic		7440-38-2	21.3	0.869	0.160	2
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture		n.a.	8.8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16184SLA026	07/06/2016 01:01	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16184SLA026	07/05/2016 08:30	Kayla Yuditsky	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016 06:49	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016 09:15	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161870637003	07/07/2016 14:50	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016 14:50	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016 14:50	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	161870637003A	07/07/2016 05:54	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161870637003A	07/07/2016 05:54	Choon Y Tian	2

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Analysis Report

Sample Description: DT-2-120-0-2-062316-MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445786
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:37 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

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Box 13
Atlanta GA 30309

FC221 SDG#: FCP02-21MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016 09:10	James L Mertz	1
00118	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT-2-120-0-2-062316-MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445787
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:37 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC221 SDG#: FCP02-21MSD

CAT No.	Analysis Name		CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles		**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene		50-32-8	980	18	4	1
Pesticides/PCBs		**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016		12674-11-2	130	19	3.9	1
10885	PCB-1221		11104-28-2	< 19	19	5.0	1
10885	PCB-1232		11141-16-5	< 19	19	8.7	1
10885	PCB-1242		53469-21-9	< 19	19	3.6	1
10885	PCB-1248		12672-29-6	< 19	19	3.6	1
10885	PCB-1254		11097-69-1	< 19	19	3.6	1
10885	PCB-1260		11096-82-5	140	19	5.3	1
Metals		**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper		7440-50-8	118	1.87	0.216	1
06955	Lead		7439-92-1	168	2.81	0.515	1
06958	Manganese		7439-96-5	387	0.937	0.0778	1
		SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony		7440-36-0	4.00	0.375	0.0920	2
06125	Arsenic		7440-38-2	19.0	0.750	0.138	2
Wet Chemistry		**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture		n.a.	8.8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16184SLA026	07/06/2016 01:26	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	2	16184SLA026	07/05/2016 08:30	Kayla Yuditsky	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016 07:00	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016 09:15	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161870637003	07/07/2016 14:53	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016 14:53	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016 14:53	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	161870637003A	07/07/2016 05:56	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161870637003A	07/07/2016 05:56	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-2-120-0-2-062316-MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445787
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:37 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC221 SDG#: FCP02-21MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016 09:10	James L Mertz	1
00118	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

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Analysis Report

Sample Description: DT-2-120-0-2-062316-DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445788
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:37 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC221 SDG#: FCP02-21DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	111	2.01	0.231	1
06955	Lead	7439-92-1	181	3.02	0.553	1
06958	Manganese	7439-96-5	287	1.01	0.0835	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	4.79	0.402	0.0988	2
06125	Arsenic	7440-38-2	17.0	0.805	0.148	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	8.8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	8.5	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010C	1	161870637003	07/07/2016 14:46	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016 14:46	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016 14:46	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	161870637003A	07/07/2016 05:52	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161870637003A	07/07/2016 05:52	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016 09:10	James L Mertz	1
00118	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-2-120-2-3-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445789
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:45 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC222 SDG#: FCP02-22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene	50-32-8	24	18	4	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 18	18	3.9	1
10885	PCB-1221	11104-28-2	< 18	18	5.0	1
10885	PCB-1232	11141-16-5	< 18	18	8.7	1
10885	PCB-1242	53469-21-9	< 18	18	3.6	1
10885	PCB-1248	12672-29-6	< 18	18	3.6	1
10885	PCB-1254	11097-69-1	< 18	18	3.6	1
10885	PCB-1260	11096-82-5	< 18	18	5.3	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	85.0	2.99	0.549	1
06958	Manganese	7439-96-5	86.3	0.998	0.0829	1
06961	Nickel	7440-02-0	7.37	2.00	0.299	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	4.56	0.399	0.0980	2
06128	Cadmium	7440-43-9	< 0.200	0.200	0.0387	2
06131	Chromium	7440-47-3	19.5	0.799	0.118	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	8.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016 04:22	William H Saadeh	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016 09:15	Michelle A Newswanger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016 07:12	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016 09:15	Michelle A Newswanger	1
06955	Lead	SW-846 6010C	1	161870637003	07/07/2016 15:26	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-2-120-2-3-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445789
LL Group # 1676229
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 15:45 by TP

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Reported: 07/12/2016 17:20

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC222 SDG#: FCP02-22

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06958	Manganese	SW-846 6010C	1	161870637003	07/07/2016 15:26	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	161870637003	07/07/2016 15:26	Katlin N Cataldi	1
06124	Antimony	SW-846 6020A	1	161870637003A	07/07/2016 06:11	Choon Y Tian	2
06128	Cadmium	SW-846 6020A	1	161870637003A	07/07/2016 06:11	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161870637003A	07/07/2016 06:11	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637003	07/06/2016 09:10	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16183820006B	07/02/2016 22:44	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676229
Reported: 07/12/2016 17:20

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: A161831AA	Sample number(s): 8445768		
Tetrachloroethene	< 5	5	1
Batch number: R161832AA	Sample number(s): 8445765		
Tetrachloroethene	< 250	250	50
	ug/l	ug/l	ug/l
Batch number: L161832AA	Sample number(s): 8445767		
Tetrachloroethene	< 1	1	0.5
	ug/kg	ug/kg	ug/kg
Batch number: 16178SLD026	Sample number(s): 8445770-8445772,8445789		
Benzo(a)pyrene	< 17	17	3
Batch number: 16184SLA026	Sample number(s): 8445785-8445787		
Benzo(a)pyrene	< 17	17	3
	ug/l	ug/l	ug/l
Batch number: 16178WAE026	Sample number(s): 8445767		
Benzo(a)pyrene	< 0.5	0.5	0.1
	ug/kg	ug/kg	ug/kg
Batch number: 161880028A	Sample number(s): 8445766,8445771-8445773,8445785-8445787,8445789		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	ug/l	ug/l	ug/l
Batch number: 161770034A	Sample number(s): 8445767		
PCB-1016	< 0.40	0.40	0.080
PCB-1221	< 0.40	0.40	0.080
PCB-1232	< 0.40	0.40	0.16
PCB-1242	< 0.40	0.40	0.080
PCB-1248	< 0.40	0.40	0.080
PCB-1254	< 0.40	0.40	0.080
PCB-1260	< 0.40	0.40	0.12
	mg/kg	mg/kg	mg/kg
Batch number: 161800638001	Sample number(s): 8445769-8445772,8445774-8445784		
Mercury	< 0.100	0.100	0.0100

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676229
Reported: 07/12/2016 17:20

Method Blank (continued)

Analysis Name	Result	LOQ**	MDL
	mg/kg	mg/kg	mg/kg
Batch number: 161830637002	Sample number(s): 8445769,8445774-8445784		
Cobalt	< 1.00	1.00	0.120
Copper	< 2.00	2.00	0.230
Lead	< 3.00	3.00	0.550
Manganese	< 1.00	1.00	0.0830
Nickel	< 2.00	2.00	0.300
Zinc	< 4.00	4.00	0.680
Batch number: 161830637002A	Sample number(s): 8445769,8445774-8445784		
Antimony	< 0.400	0.400	0.0982
Arsenic	< 0.800	0.800	0.148
Cadmium	< 0.200	0.200	0.0388
Chromium	< 0.800	0.800	0.118
Batch number: 161830637002B	Sample number(s): 8445769,8445774-8445784		
Selenium	< 0.800	0.800	0.0874
Batch number: 161870637003	Sample number(s): 8445765-8445766,8445770-8445773,8445785-8445789		
Copper	< 2.00	2.00	0.230
Lead	< 3.00	3.00	0.550
Manganese	< 1.00	1.00	0.0830
Nickel	< 2.00	2.00	0.300
Zinc	< 4.00	4.00	0.680
Batch number: 161870637003A	Sample number(s): 8445766,8445770-8445773,8445785-8445789		
Antimony	< 0.400	0.400	0.0982
Arsenic	< 0.800	0.800	0.148
Cadmium	< 0.200	0.200	0.0388
Chromium	< 0.800	0.800	0.118
	mg/l	mg/l	mg/l
Batch number: 161800635003	Sample number(s): 8445767		
Cobalt	< 0.0100	0.0100	0.0019
Copper	< 0.0200	0.0200	0.0041
Lead	< 0.0300	0.0300	0.0062
Manganese	< 0.0100	0.0100	0.0018
Nickel	< 0.0200	0.0200	0.0028
Zinc	< 0.0400	0.0400	0.0054
Batch number: 161835713007	Sample number(s): 8445767		
Mercury	< 0.00020	0.00020	0.000050
Batch number: 161870639001A	Sample number(s): 8445767		
Antimony	< 0.0020	0.0020	0.00048
Arsenic	< 0.0040	0.0040	0.00068
Cadmium	< 0.0010	0.0010	0.00019
Chromium	< 0.0040	0.0040	0.00059
Batch number: 161870639001B	Sample number(s): 8445767		
Selenium	< 0.0040	0.0040	0.00044

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 07/12/2016 17:20

Group Number: 1676229

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A161831AA	Sample number(s): 8445768								
Tetrachloroethene	20	21.01	20	20.43	105	102	78-120	3	30
Batch number: R161832AA	Sample number(s): 8445765								
Tetrachloroethene	1000	910.3	1000	934.75	91	93	78-120	3	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: L161832AA	Sample number(s): 8445767								
Tetrachloroethene	20	18.72	20	19.96	94	100	80-129	6	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16178SLD026	Sample number(s): 8445770-8445772,8445789								
Benzo(a)pyrene	1666.67	1590.98			95		85-117		
Batch number: 16184SLA026	Sample number(s): 8445785-8445787								
Benzo(a)pyrene	1666.67	1612.2			97		85-117		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16178WAE026	Sample number(s): 8445767								
Benzo(a)pyrene	50	46.47	50	44.95	93	90	68-126	3	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 161880028A	Sample number(s): 8445766,8445771-8445773,8445785-8445787,8445789								
PCB-1016	168	156.88			93		76-121		
PCB-1260	168	157.25			94		79-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161770034A	Sample number(s): 8445767								
PCB-1016	5.05	4.49	5.05	4.55	89	90	60-117	1	30
PCB-1260	5.04	5.42	5.04	5.36	107	106	57-134	1	30
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161800638001	Sample number(s): 8445769-8445772,8445774-8445784								
Mercury	0.100	0.0970			97		80-120		
Batch number: 161830637002	Sample number(s): 8445769,8445774-8445784								
Cobalt	50	48.31			97		80-120		
Copper	25	25.21			101		80-120		
Lead	15	14.5			97		80-120		
Manganese	50	47.91			96		80-120		
Nickel	50	48.61			97		80-120		
Zinc	50	47.51			95		80-120		
Batch number: 161830637002A	Sample number(s): 8445769,8445774-8445784								
Antimony	0.600	0.555			93		80-120		
Arsenic	1.00	0.941			94		80-120		
Cadmium	0.500	0.485			97		80-120		
Chromium	5.00	4.62			92		80-120		
Batch number: 161830637002B	Sample number(s): 8445769,8445774-8445784								

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676229
Reported: 07/12/2016 17:20

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Selenium	1.00	0.943			94		80-120		
Batch number: 161870637003	Sample number(s): 8445765-8445766,8445770-8445773,8445785-8445789								
Copper	25	24.71			99		80-120		
Lead	15	13.5			90		80-120		
Manganese	50	46.21			92		80-120		
Nickel	50	46.33			93		80-120		
Zinc	50	45.18			90		80-120		
Batch number: 161870637003A	Sample number(s): 8445766,8445770-8445773,8445785-8445789								
Antimony	0.600	0.574			96		80-120		
Arsenic	1.00	1.11			111		80-120		
Cadmium	0.500	0.544			109		80-120		
Chromium	5.00	5.18			104		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 161800635003	Sample number(s): 8445767								
Cobalt	0.500	0.538			108		80-120		
Copper	0.250	0.281			112		80-120		
Lead	0.150	0.159			106		80-120		
Manganese	0.500	0.533			107		80-120		
Nickel	0.500	0.545			109		80-120		
Zinc	0.500	0.526			105		80-120		
Batch number: 161835713007	Sample number(s): 8445767								
Mercury	0.00100	0.000989			99		80-120		
Batch number: 161870639001A	Sample number(s): 8445767								
Antimony	0.00600	0.00590			98		80-120		
Arsenic	0.0100	0.00979			98		80-120		
Cadmium	0.00500	0.00513			103		80-120		
Chromium	0.0500	0.0492			98		80-120		
Batch number: 161870639001B	Sample number(s): 8445767								
Selenium	0.0100	0.0104			104		80-120		
	%	%	%	%					
Batch number: 16183820006A	Sample number(s): 8445765-8445766,8445769-8445776								
Moisture	89.5	89.46			100		99-101		
Batch number: 16183820006B	Sample number(s): 8445777-8445789								
Moisture	89.5	89.46			100		99-101		
Moisture	89.5	89.46			100		99-101		
Moisture Duplicate	89.5	89.46			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676229
Reported: 07/12/2016 17:20

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A161831AA	Sample number(s): 8445768 UNSPK: P444325									
Tetrachloroethene	8.00	16.45	42.48			210*		78-120		
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: L161832AA	Sample number(s): 8445767 UNSPK: P440147									
Tetrachloroethene	< 20	400	431.28	400	420.34	108	105	80-129	3	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16178SLD026	Sample number(s): 8445770-8445772,8445789 UNSPK: P445785									
Benzo(a)pyrene	51.76	1650.17	881.7	1644.74	441.93	50*	24*	85-117	66*	30
Batch number: 16184SLA026	Sample number(s): 8445785-8445787 UNSPK: 8445785									
Benzo(a)pyrene	55.34	1639.34	863.58	1644.74	897.81	49*	51*	85-117	4	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 161880028A	Sample number(s): 8445766,8445771-8445773,8445785-8445787,8445789 UNSPK: 8445785									
PCB-1016	< 17	167	114.79	167	120.03	69*	72*	76-121	4	50
PCB-1260	< 17	166	121.99	167	125.34	73*	75*	79-130	3	50
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161800638001	Sample number(s): 8445769-8445772,8445774-8445784 UNSPK: 8445769									
Mercury	0.109	0.164	0.306	0.158	0.283	120	110	80-120	7	20
Batch number: 161830637002	Sample number(s): 8445769,8445774-8445784 UNSPK: 8445769									
Cobalt	7.22	46.3	45.44	47.62	44.76	83	79	75-125	2	20
Copper	28.14	23.15	49.67	23.81	51.12	93	97	75-125	3	20
Lead	23.67	13.89	36.21	14.29	33.37	90	68*	75-125	8	20
Manganese	487.18	46.3	533.57	47.62	462.32	100 (2)	-52 (2)	75-125	14	20
Nickel	10.92	46.3	51.34	47.62	50.24	87	83	75-125	2	20
Zinc	50.34	46.3	88.29	47.62	89.63	82	83	75-125	2	20
Batch number: 161830637002A	Sample number(s): 8445769,8445774-8445784 UNSPK: 8445769									
Antimony	0.178	1.11	0.451	1.14	0.404	25*	20*	75-125	11	20
Arsenic	2.51	1.85	3.72	1.90	3.98	65*	77	75-125	7	20
Cadmium	0.0302	0.926	0.877	0.952	0.875	91	89	75-125	0	20
Chromium	25.83	9.26	28.89	9.52	30.7	33*	51*	75-125	6	20
Batch number: 161830637002B	Sample number(s): 8445769,8445774-8445784 UNSPK: 8445769									
Selenium	0.263	1.85	1.71	1.90	1.75	78	78	75-125	2	20
Batch number: 161870637003	Sample number(s): 8445765-8445766,8445770-8445773,8445785-8445789 UNSPK: 8445785, P445785									
Copper	101.04	24.75	109.35	21.37	107.22	34 (2)	29 (2)	75-125	2	20
Lead	166.9	14.85	145.94	12.82	152.92	-141 (2)	-109 (2)	75-125	5	20
Manganese	288.18	49.5	291.44	42.74	352.73	7 (2)	151 (2)	75-125	19	20
Nickel	11.06	49.5	100.87	42.74	42.61	181*	74*	75-125	81*	20
Zinc	111.71	49.5	173.41	42.74	150.21	125	90	75-125	14	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676229
Reported: 07/12/2016 17:20

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 161870637003A	Sample number(s): 8445766,8445770-8445773,8445785-8445789 UNSPK: 8445785, P445785									
Antimony	3.51	1.19	4.52	1.03	3.65	85	13*	75-125	21*	20
Arsenic	16.16	1.98	19.39	1.71	17.36	163 (2)	70 (2)	75-125	11	20
Cadmium	0.294	0.990	1.25	0.855	1.24	96	111	75-125	0	20
Chromium	14	9.90	27.35	8.55	25.97	135*	140*	75-125	5	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 161800635003	Sample number(s): 8445767 UNSPK: P441007									
Cobalt	< 0.0100	0.500	0.509	0.500	0.511	102	102	75-125	0	20
Copper	< 0.0200	0.250	0.277	0.250	0.279	111	112	75-125	1	20
Lead	< 0.0300	0.150	0.153	0.150	0.153	102	102	75-125	0	20
Manganese	0.00749	0.500	0.523	0.500	0.526	103	104	75-125	0	20
Nickel	0.00324	0.500	0.519	0.500	0.516	103	103	75-125	1	20
Zinc	< 0.0400	0.500	0.521	0.500	0.519	104	104	75-125	0	20
Batch number: 161835713007	Sample number(s): 8445767 UNSPK: P452085									
Mercury	< 0.00020	0.00100	0.000973	0.00100	0.000977	97	98	80-120	0	20
Batch number: 161870639001A	Sample number(s): 8445767 UNSPK: P458340									
Antimony	< 0.0020	0.00600	0.00637	0.00600	0.00622	106	104	75-125	2	20
Arsenic	< 0.0040	0.0100	0.0109	0.0100	0.0109	109	109	75-125	0	20
Cadmium	< 0.0010	0.00500	0.00522	0.00500	0.00515	104	103	75-125	1	20
Chromium	< 0.0040	0.0500	0.0499	0.0500	0.0492	100	98	75-125	1	20
Batch number: 161870639001B	Sample number(s): 8445767 UNSPK: P458340									
Selenium	0.00126	0.0100	0.0115	0.0100	0.0110	103	97	75-125	5	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 161800638001	Sample number(s): 8445769-8445772,8445774-8445784 BKG: 8445769			
Mercury	0.109	0.148	30* (1)	20
Batch number: 161830637002	Sample number(s): 8445769,8445774-8445784 BKG: 8445769			
Cobalt	7.22	6.67	8	20
Copper	28.14	25.57	10	20
Lead	23.67	24.49	3	20
Manganese	487.18	451.81	8	20
Nickel	10.92	9.56	13	20
Zinc	50.34	46.38	8	20
Batch number: 161830637002A	Sample number(s): 8445769,8445774-8445784 BKG: 8445769			
Antimony	0.178	< 0.374	200* (1)	20

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676229
Reported: 07/12/2016 17:20

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Arsenic	2.51	2.33	7 (1)	20
Cadmium	0.0302	< 0.187	200* (1)	20
Chromium	25.83	21.38	19	20
Batch number: 161830637002B	Sample number(s): 8445769,8445774-8445784 BKG: 8445769			
Selenium	0.263	0.246	7 (1)	20
Batch number: 161870637003	Sample number(s): 8445765-8445766,8445770-8445773,8445785-8445789 BKG: 8445785, P445785			
Copper	101.04	101.16	0	20
Lead	166.9	164.62	1	20
Manganese	288.18	261.42	10	20
Nickel	11.06	9.78	12	20
Zinc	111.71	116.5	4	20
Batch number: 161870637003A	Sample number(s): 8445766,8445770-8445773,8445785-8445789 BKG: 8445785, P445785			
Antimony	3.51	4.37	22*	20
Arsenic	16.16	15.54	4	20
Cadmium	0.294	0.282	4 (1)	20
Chromium	14	17.67	23*	20
	mg/l	mg/l		
Batch number: 161800635003	Sample number(s): 8445767 BKG: P441007			
Cobalt	< 0.0100	< 0.0100	0 (1)	20
Copper	< 0.0200	< 0.0200	0 (1)	20
Lead	< 0.0300	< 0.0300	0 (1)	20
Manganese	0.00749	0.00737	2 (1)	20
Nickel	0.00324	< 0.0200	200* (1)	20
Zinc	< 0.0400	< 0.0400	0 (1)	20
Batch number: 161835713007	Sample number(s): 8445767 BKG: P452085			
Mercury	< 0.00020	< 0.00020	0 (1)	20
Batch number: 161870639001A	Sample number(s): 8445767 BKG: P458340			
Antimony	< 0.0020	< 0.0020	0 (1)	20
Arsenic	< 0.0040	< 0.0040	0 (1)	20
Cadmium	< 0.0010	< 0.0010	0 (1)	20
Chromium	< 0.0040	0.000636	200* (1)	20
Batch number: 161870639001B	Sample number(s): 8445767 BKG: P458340			
Selenium	0.00126	0.00125	1 (1)	20
	%	%		
Batch number: 16183820006A	Sample number(s): 8445765-8445766,8445769-8445776 BKG: 8445771			
Moisture	7.85	7.45	5	5
Batch number: 16183820006B	Sample number(s): 8445777-8445789 BKG: 8445785, P445785			
Moisture	8.82	8.50	4	5
Moisture	8.82	8.50	4	5
Moisture Duplicate	8.82	8.50	4	5

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676229
Reported: 07/12/2016 17:20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Soil Master
Batch number: A161831AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8445768	102	105	102	96
Blank	100	94	104	94
LCS	102	102	103	99
LCSD	102	102	103	99
MS	103	104	105	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260C
Batch number: L161832AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8445767	105	103	95	98
Blank	102	102	95	97
LCS	101	101	97	101
LCSD	102	101	97	102
MS	101	101	98	100
MSD	101	100	98	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: 8260C Soil Master
Batch number: R161832AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8445765	83	84	78	73
Blank	90	91	79	84
LCS	94	94	93	91
LCSD	99	100	97	94
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 16178SLD026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8445770	87	92	89	93	90	88
8445771	83	86	83	90	91	90
8445772	83	81	84	88	90	93
8445789	76	76	73	87	88	85
Blank	92	98	108	94	89	100
LCS	88	91	112	90	90	97
MS	70	68	61	79	80	78
MSD	38*	36*	34*	47*	44*	42*
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 07/12/2016 17:20

Group Number: 1676229

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: SVOAs by 8270D in Water
Batch number: 16178WAE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8445767	102	91	81
Blank	100	89	96
LCS	99	87	92
LCSD	101	89	91
Limits:	46-128	61-112	41-125

Analysis Name: SVOA 8270D (microwave)
Batch number: 16184SLA026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8445785	73	63	57	82	85	85
8445786	81	80	80	79	80	84
8445787	83	82	83	82	84	85
Blank	94	99	129	93	94	104
LCS	100	102	117	93	89	99
MS	81	80	80	79	80	84
MSD	83	82	83	82	84	85
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: PCBs in Water by 8082A
Batch number: 161770034A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8445767	102	71
Blank	95	53
LCS	93	73
LCSD	94	72
Limits:	33-137	10-148

Analysis Name: PCBs 8082A
Batch number: 161880028A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8445766	101	95
8445771	83	77
8445772	89	72
8445773	101	85
8445785	70	71
8445786	80	80
8445787	84	84
8445789	81	78
Blank	122	96
LCS	110	97
MS	80	80
MSD	84	84

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 07/12/2016 17:20

Group Number: 1676229

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Limits:	53-140	45-143

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

eurofins Lancaster Laboratories Environmental

Fedex 809160482855
809160487651

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10302 Group # 1676229 Sample # 8448765-89

COC # 503825

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: Steven Aufeden Kampe	P.O. #: SA14.127-001
Sampler: Terrell Parker, Ferdinand Mayila	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Soil ☑ Sediment ☐ Tissue ☐ Water ☐ Ground ☐ Surface ☐ Potable ☐ NPDES ☐ Other:

Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Metals 6010C Pb, Mn	Metals 6020 Vol (PCE) 8260B/5035	Metals 6010C Pb, Mn, Ni	Metals 6020 Sb, Cd, Cr	PCBs by 8082	Metals 6010C Co, Cu, Pb, Mn, Ni, Zn	Metals 6020 Sb, As, Cd, Cr, Se	Hg by 7470	Benzo(a)pyrene 8270D		Remarks
DT-3-40-0-2-062316	6/23/16	15:52	✓		✓			5	✓	✓									bottle count includes contained for moist.
DT-3-40-2-4-062316	6/23/16	16:09	✓		✓			1			✓	✓	✓						brown silty clayey sand
Equipment Blank-062316	6/23/16	16:30	✓			✓		8		✓			✓	✓	✓	✓	✓		Rinse of hand auger
Trip Blank-2-062316	6/23/16	17:00	✓		✓			2		✓									

6-23-16

For Lab Use Only
FSC:
SCR#: 190337

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: john.jolly@amecfw.com
E-mail address: judy.hartness@amecfw.com

Relinquished by	Date	Time	Received by	Date	Time
James T. Parker	6/23/16	18:25			
			Karen Diem	6/25/16	930

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

EDD Required? Yes No
If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.1 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. 7044 0216
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Environmental Analysis Request/Chain of Custody

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Lancaster Laboratories Environmental

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Acct. # 10302 Group # 1676229 Sample # 8445765-88

COC # 503827

Client Information

Client: Norfolk Southern

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: Steven Aufedenkampe

P.O. #: SA14.127-001

Sampler: Terrell Parker & Ferdinand Mayila

Quote #:

State where samples were collected: GA

For Compliance: Yes ☐ No ☐

Matrix

Soil ☑ Sediment ☐ Tissue ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ____

Analysis Requested / Preservation Codes

For Lab Use Only

FSC:

SCR#: 190337

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	Hg by 7471	metals by 6010C Cu, Pb, Mn, Ni, Zn	metals by 6020 Sb, As, Cd, Cr, Se	metals by 6010C Cu, Pb, Mn, Ni, Zn	metals by 6020 Sb, Cd, Cr	Benzo-a-pyrene 8270D	metals 6020 Cd, Cr	PCBs by 8082	metals 6010C Mn, Zn	metals 6020 As, Cd
BK-1-2-4-062316	6/23/16	12:56	✓		1	✓	✓	✓							
DT-7-40-0-2-062316	6/23/16	13:15	✓		1	✓			✓	✓	✓				
DT-9-105-0-2-062316	6/23/16	13:25	✓		1	✓			✓		✓	✓	✓		
DT-Dup3-062316	6/23/16	12:00	✓		1	✓			✓		✓	✓	✓		
DT9-105-2-4-062316	6/23/16	13:35	✓		1								✓	✓	✓
BK-9-0-2-062316	6/23/16	13:45	✓		1	✓	✓	✓							
BK-9-2-4-062316	6/23/16	13:55	✓		1	✓	✓	✓							
BK-8-0-2-062316	6/23/16	14:00	✓		1	✓	✓	✓							
BK-8-2-4-062316	6/23/16	14:05	✓		1	✓	✓	✓							
BK-10-0-2-062316	6/23/16	14:02	✓		1	✓	✓	✓							

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: John.Jolly@amecfw.com
judy.hartness@amecfw.com

Relinquished by	Date	Time	Received by	Date	Time
[signature]	6/23/16	18:25			
			Karen Diem [signature]	6/25/16	9:35

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

EDD Required? Yes No

If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.1-2.4°C

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10302 Group # 1676229 Sample # 8445765-89

COC # 503823

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: Steven Aufedenkampe	P.O. #: SA14.127-001
Sampler: Terrell Parker + Ferdinand Mayila	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Soil ☑ Sediment ☐ Tissue ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other:

Analysis Requested — Preservation Codes

For Lab Use Only: FSC: ____ SCR#: 190337

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Hg by 7471	Metals 6010C Co, Cu, Pb, Mn, Ni, Zn	Metals 6020 Sb, As, Cd, Cr, Se	Metals 6010C Cu, Pb, Mn	Metals 6020 Sb, As	~~PCBs~~ PCBs by 8082	Benzoaprene by 8270D	Metals 6010C Pb, Mn, Ni	Metals 6020 Sb, Cd, Cr		Remarks
BK-10-2-4-062316	6/23/16	14:11	✓		✓			1	✓	✓	✓								
BK-Dup4-062316	6/23/16	12:00	✓		✓			1	✓	✓	✓								
BK-2-0-2-062316	6/23/16	14:20	✓		✓			1	✓	✓	✓								
BK-2-2-4-062316	6/23/16	14:22	✓		✓			1	✓	✓	✓								
BK-5-0-2-062316	6/23/16	14:25	✓		✓			1	✓	✓	✓								
BK-6-0-2-062316	6/23/16	14:30	✓		✓			1	✓	✓	✓								
~~DT-2-0-2-062316~~	~~6/23/16~~	~~15:37~~	✓		✓			3											+ ms/msd 6-23-16
DT-2-120-0-2-062316	6/23/16	15:37	✓		✓			3				✓	✓	✓	✓				+ ms/msd
DT-2-120-2-3-062316	6/23/16	15:45	✓		✓			1						✓	✓	✓	✓		
~~DT-3-40-0-2-062316~~	~~6/23/16~~	~~15:52~~	✓		✓														

DTP 6-23-16

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: john.jolly@amecfw.com

E-mail address: judy.hartness@amecfw.com

Relinquished by	Date	Time	Received by	Date	Time
James T. Parker	6/23/16	18:25			
			Karen Diem	6/25/16	930

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) — Type VI (Raw Data Only)

Type III (Reduced non-CLP) — NJ DKQP — TX TRRP-13

NYSDEC Category A or B — MA MCP — CT RCP

EDD Required? Yes No

If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.1 °C -2.4°C th 6/28/16 (3)

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7044 0216

1676229

Katherine Klinefelter

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Friday, June 24, 2016 6:15 PM
To: Angela Miller
Cc: Katherine Klinefelter
Subject: RE: Norfolk Southern COCs and Airbill
Attachments: COC-04-NS-Columbus, GA_062316.pdf; NS Columbus - Phase II Soil Analyses-r1.xlsx

Importance: High

Here's revised chains and a revised sample table for the NS Former Cohn Property, Columbus, GA job for soil sample you probably received today.

I'm sorry I am just now getting to this.

Some samples were not collected and some of the QC was moved.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: Hartness, Judy A
Sent: Thursday, June 23, 2016 12:16 PM
To: 'Angela Miller' <AngelaMiller@eurofinsUS.com>
Cc: Katherine Klinefelter <KatherineKlinefelter@eurofinsus.com>
Subject: RE: Norfolk Southern COCs and Airbill
Importance: High

Take a look at this table and revised COCs.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
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judy.hartness@amecfw.com amecfw.com

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Thursday, June 23, 2016 11:01 AM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Cc: Katherine Klinefelter <KatherineKlinefelter@eurofinsus.com>
Subject: RE: Norfolk Southern COCs and Airbill

Thank you.

Angela Miller
Specialist

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

USA
Phone: +1 717-556-7260

1676229

Look for Eurofins Lancaster Laboratories Environmental at these upcoming conferences and industry events.

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From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Thursday, June 23, 2016 10:56 AM
To: Angela Miller
Subject: RE: Norfolk Southern COCs and Airbill

The analyses are kind of complicated. I have attached the list we sent to Kathy for analyses to be analyzed at each location and depth.

In the mean time I will check the COCs with this table to make sure they are correct.

Judith A. Hartness
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judy.hartness@amecfw.com amecfw.com

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Thursday, June 23, 2016 10:46 AM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Subject: RE: Norfolk Southern COCs and Airbill

Thank you, Judith. I have provided to our sample registration department.

Angela Miller
Specialist

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601
USA
Phone: +1 717-556-7260

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From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Wednesday, June 22, 2016 8:24 PM
To: Angela Miller
Subject: FW: Norfolk Southern COCs and Airbill

1076229

Angela,
Kathy's email indicates you are her contact in her absence. I have attached the COCs for the Norfolk Southern Former Cohn Property Soil samples that you should receive on Thursday 6-23-16.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: Hartness, Judy A
Sent: Wednesday, June 22, 2016 8:21 PM
To: 'Katherine Klinefelter' <KatherineKlinefelter@eurofinsus.com>
Cc: Jolly, John <john.jolly@amec.com>; Parker, Terrell <Terrell.Parker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>
Subject: FW: Norfolk Southern COCs and Airbill

Here are the COCs for the Norfolk Southern Former Cohn Property Soil samples.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360 judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: TP [mailto:jterrell.parker@gmail.com]
Sent: Wednesday, June 22, 2016 7:04 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Subject: Norfolk Southern COCs and Airbill

Judy:
Please forward to Eurofins contact.
Thanks,
Terrell

amec
foster
wheeler

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1676229

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Environmental Analysis Request/Chain of Custody

eurofins

Fedex 8091 6048 7855
8091 6048 7855

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only
Acct. # 10302 Group # 1676229 Sample # 8445765-89

COC #503825

Client Information

Client: Norfolk Southern
Acct. #:
Project Name/#: Former Cohn Property
PWSID #:
Project Manager: Steven Antonelo Ramos
P.O. #: SA14.127-001
Sampler: Terrell Parker, Ferdinand Mavilla
Quote #:
State where samples were collected: GA
For Compliance: Yes ☐ No ☐

Matrix

Soil ☑ Sediment ☐ Tissue ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ___

Analysis Requested / Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	Metals 6010C Pb, Mn	Metals 6020 Cr, Cd, Pb, Mn, Ni, Zn	Metals 6010C Cr, Cd, Pb, Mn, Ni, Zn	Metals 6020 Sb, As, Cd, Cr, Se	Hg 7470	Hg 7471	Remarks
DT-3-40-0-2-062316	6/23/16	15:32	✓		5	✓	✓					bottle count includes field QC samples
DT-3-40-2-4-062316	6/23/16	16:09	✓		1			✓	✓	✓		brown silty clayey sand
Equipment Blank-062316	6/23/16	16:30	✓		8		✓			✓	✓	Rinse of hand auger
Trip Blank-2-062316	6/23/16	14:00	✓		2		✓					

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

For Lab Use Only
FSC:
SCR#: 190337

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:
E-mail address: john.jolly@amecfw.com, judy.hartner@amecfw.com

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Terrell Parker	6/23/16	18:25			

EDD Required? Yes No
If yes, format: EQUIS
Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ___ FedEx ✓ Other ___
Temperature upon receipt ___ °C

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Environmental Analysis Request/Chain of Custody

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Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10302 Group # 1676229 Sample # 8445765-89

COC # 503827

Client Information

Client: Norfolk Southern

Acct. #:

Project Name/#: Former Cohn Property

PWSID #:

Project Manager: Steven Aufderdenkampe

P.O. #: SAU. 127-001

Sampler: Terrell Parker Hedmund Mavila

Quote #:

State where samples were collected: GA

For Compliance: Yes ☐ No ☐

For Lab Use Only

FSC:

SCR#: 190337

Matrix

Tissue ☐ Ground ☐ Surface ☐ Sediment ☐ Potable ☐ NPDES ☐ Soil ☑ Water ☐ Other: ____

Analysis Requested / Preservation Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Hg by 7471	metals by 6010C Cu, Cr, Pb, Zn, Ni	metals by 6010C Cu, As, Cd, Cr, Zn	metals by 6010C Cu, Pb, Cr, Ni, Zn	metals by 6020 Cu, Pb, Cr, Ni, Zn	Extractable Petroleum Hydrocarbons	PAHs by 8270D	metals by 6010C	PCBs by 8082	metals by 6020 Cu, Pb, Cr, Ni, Zn
BK-1-2-4-062316	6/23/16	12:56	✓		✓			1	✓	✓	✓							
DT-7-40-0-2-062316	6/23/16	13:15	✓		✓			1	✓			✓	✓	✓				
DT-9-105-0-2-062316	6/23/16	13:25	✓		✓			1	✓			✓		✓	✓	✓		
DT-Dup3-062316	6/23/16	12:00	✓		✓			1	✓			✓		✓	✓	✓		
DT-9-105-2-4-062316	6/23/16	13:35	✓		✓			1								✓	✓	✓
BK-9-0-2-062316	6/23/16	13:45	✓		✓			1	✓	✓	✓							
BK-9-2-4-062316	6/23/16	13:55	✓		✓			1	✓	✓	✓							
BK-8-0-2-062316	6/23/16	14:00	✓		✓			1	✓	✓	✓							
BK-8-2-4-062316	6/23/16	14:05	✓		✓			1	✓	✓	✓							
BK-10-0-2-062316	6/23/16	14:02	✓		✓			1	✓	✓	✓							

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: john.jolly@amecfw.com
mike.hartnett@amecfw.com

Relinquished by	Date	Time	Received by	Date	Time
[signature]	6/23/16	18:25			

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS ____ FedEx ✓ Other ____

Temperature upon receipt ____ °C

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Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10302 Group # 1676229 Sample # 8445765-89

COC #503823

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Farmer Cohn Property	PWSID #:
Project Manager: Steven Aufedenkampe	P.O. #: SA14.127-001
Sampler: Terrell Parker + Ferdinand Mavila	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Soil ☑ Sediment ☐ Tissue ☐ | Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Other: ____

Analysis Requested — Preservation Codes

For Lab Use Only
FSC: ____
SCR#: 190337

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Hg by 7471	Metals 6010C Co, Cu, Pb, Mn, Ni, Zn	Metals 6020 Sb, As, Cd, Cr, Se	Metals 6010C Cd, Pb, Mn	Metals 6020 Sb, As	~~PCBs~~ by 8082	Benzoyl-Pyrene by 8270D	Metals 6010C Pb, Mn, Ni	Metals 6020 Sb, Cd, Cr	Remarks
BK-10-2-4-062316	6/23/16	14:11	✓		✓			1	✓	✓	✓							
BK-Dup4-062316	6/23/16	12:00	✓		✓			1	✓	✓	✓							
BK-2-0-2-062316	6/23/16	14:20	✓		✓			1	✓	✓	✓							
BK-2-2-4-062316	6/23/16	14:22	✓		✓			1	✓	✓	✓							
BK-5-0-2-062316	6/23/16	14:25	✓		✓			1	✓	✓	✓							
BK-6-0-2-062316	6/23/16	14:30	✓		✓			1	✓	✓	✓							
~~DT-2-0-2-062316~~	~~6/23/16~~	~~15:37~~	~~✓~~		~~✓~~			~~3~~										+ ms/msd 6-23-16
DT-2-120-0-2-062316	6/23/16	15:37	✓		✓			3				✓	✓	✓	✓			+ ms/msd
DT-2-120-2-3-062316	6/23/16	15:45	✓		✓			1						✓	✓	✓	✓	
~~DT-2-40-0-2-062316~~	~~6/23/16~~	~~15:52~~	~~✓~~		~~✓~~													

EDD 6-23-16

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: john.jolly@ameetw.com judy.hartness@ameetw.com

Relinquished by	Date	Time	Received by	Date	Time
Jamert T. Parker [signature]	6/23/16	18:25			

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)
Type III (Reduced non-CLP) | NJ DKQP | TX TRRP-13
NYSDEC Category A or B | MA MCP | CT RCP

EDD Required? Yes No
If yes, format: Equis

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt ____ °C

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Norfolk Southern - Former Cohn Property
Phase II Soil Proposed Sampling and Analyses Scope

Location	Metals ICP	Metals ICPMS	Mercury	PCBs	SVOCs	VOCs	QC	QC	
ID	6010	6020	7471	8082	8270	8260	MA/MSD	DUP	
DT-1B-0-2	Cu,Pb,Mn	Sb,As	--	--	--	--	--		
~~DT-1B-2-4~~	~~Cu,Pb,Mn,Ni~~	~~As,Cd,Cr~~	--	--	--	--	--		NOT COLLECTED - HIT REFUSAL
DT-2-120-0-2	Cu,Pb,Mn	Sb,As	--	PCBs	BaP	--	MS/MSD (All)		had to move MS/MSD to surface soil (not enough subsurface soil) added PCBs and BaP to surface
DT-2-120-2-3	Pb,Mn,Ni	Sb, Cd,Cr	--	PCBs	BaP		~~MS/MSD (All)~~		
DT-3-40-0-2	Pb,Mn	--	--	--	--	PCE	--		
DT-3-40-2-4	Pb,Mn,Ni	Sb, Cd,Cr	--	PCBs	--	--	--		
DT-4-100-0-2	Pb,Mn	As,Se	--	--	BaP	--	--		
DT-4-50-2-4	Cu,Pb,Mn,Zn	Sb,As,Cd,Cr	--	PCBs	BaP	--	--		
DT-5-50-0-2	Cu,Pb,Mn	Sb, Cd	--	--	--	PCE		VOC DUP = DT-DUP-1	
DT-5-50-2-4	Pb,Mn	Sb, Cd	--	--	--	--	--		
DT-6-35-0-2	Pb,Mn	As,Se	--	--	BaP	--	--		
DT-6-35-2-4	Cu,Pb,Mn,Ni	Cr	--	PCBs	BaP	PCE	VOC MS/MSD		
DT-7-40-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd,Cr	Hg	--	BaP	--	--		
~~DT-7-2-4~~	~~Mn~~	--	--	--	--	--	--		NOT COLLECTED - HIT REFUSAL
DT-8-0-2 offset	Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	PCBs	BaP	--	--		
DT-8-2-4 offset	Mn	--	Hg	--	--	--	--		
DT-9-105-0-2	Cu,Pb,Mn,Ni,Zn	Cd,Cr	Hg	PCBs	BaP	--		Dup (All) = DT-DUP-~~2~~3	
DT-9-105-2-4	Mn,Zn	As,Cd,Cr	--	PCBs	--	--	--		
DT-10B-0-2	Cu,Pb,Mn,Zn	--	--	PCBs	--	--	--		
DT-10B-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	PCBs	--	--	--		
DT-11B-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd	--	PCBs	--	--	--		
DT-11B-2-4	Pb,Mn	--	--	PCBs	--	--	--		
DT-12B-0-2	Cu,Pb,Mn	--	--	--	--	--	--		
DT-12B-2-4	Cu,Pb,Mn,Ni	Sb, Cd,Cr	--	--	--	--	--		
Background Samples									
BK-1-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-1-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-2-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-2-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-3-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--	MS/MSD (All)	~~Dup (All)~~	
BK-3-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		Dup (All)=BK-DUP-2	
BK-4-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-4-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-5-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
~~BK-5-2-4~~	~~Co,Cu,Pb,Mn,Ni,Zn~~	~~Sb,As,Cd,Cr,Se~~	~~Hg~~	--	--	--			NOT COLLECTED - HIT REFUSAL
BK-6-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
~~BK-6-2-4~~	~~Co,Cu,Pb,Mn,Ni,Zn~~	~~Sb,As,Cd,Cr,Se~~	~~Hg~~	--	--	--			NOT COLLECTED - HIT REFUSAL
BK-7-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-7-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-8-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-8-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-9-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-9-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-10-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-10-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--	~~MS/MSD (All)~~	Dup (All) = BK-Dup-4	

1676229

Katherine Klinefelter

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Thursday, June 30, 2016 12:36 PM
To: Katherine Klinefelter
Cc: Barker, Michelle; Mayila, Ferdinand K
Subject: RE: 1676229-Former Cohn Property/Columbus, GA-06/25/2016 9:30:00 Acknowledgement

This log-in is correct.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: LLAutomatedReportingSystem@eurofins.com [mailto:LLAutomatedReportingSystem@eurofins.com]
Sent: Wednesday, June 29, 2016 8:05 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>
Subject: 1676229-Former Cohn Property/Columbus, GA-06/25/2016 9:30:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

This is an automated message from an unmonitored address. Please do not reply to this address.

amec
foster
wheeler

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Sample Administration Receipt Documentation Log

Doc Log ID: 151595

Group Number(s): 1696229

Client: Amec Foster Wheeler

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	06/24/2016 9:30
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	No	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): Sodium Bisulfate

Unpacked by Joseph Huber (7831) at 16:06 on 06/24/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	2.4	DT	Wet	Y	Bagged	N

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Client: Amec Foster Wheeler

Paperwork Not Enclosed Details

Sample ID on Label	No. of Containers	Date on Label	Comments
Equipment Blank-062316	8	6/23/2016 16:30	2 (PCBs) 2 (Benzo) 3 (HCL vials)
BK-DUP4-062316	1	6/23/2016 12:00	Moisture & Metals
BK-DUP4-062316	1	6/23/2016 12:00	Moisture & Metals
BK-8-0-2-062316	1	6/23/2016 14:00	Moisture & Metals
BK-8-2-4-062316	1	6/23/2016 14:05	Moisture & Metals
BK-10-0-2-062316	1	6/23/2016 14:02	Moisture & Metals
BK-10-2-4-062316	1	6/23/2016 14:11	Moisture & Metals
BK-2-0-2-062316	1	6/23/2016 14:20	Moisture & Metals
BK-2-2-4-062316	1	6/23/2016 14:22	Moisture & Metals
BK-5-0-2-062316	1	6/23/2016 14:25	Moisture & Metals
BK-6-0-2-062316	1	6/23/2016 14:30	Moisture & Metals
DT-2-120-0-2-062316	1	6/23/2016 15:37	Moisture, Metals, PCBs & Benzo
DT-2-120-0-2-062316 MS	1	6/23/2016 15:37	Moisture, Metals, PCBs & Benzo
DT-2-120-0-2-062316 MSD	1	6/23/2016 15:37	Moisture, Metals, PCBs & Benzo
DT-2-120-0-3-062316	1	6/23/2016 15:45	Moisture, Metals, PCBs & Benzo
DT-3-40-0-2-062316	5	6/23/2016 15:52	Moisture, Metals, PCBs, Benzo & PCE
DT-3-40-2-4-062316	1	6/23/2016 16:09	Moisture, Metals & PCBs
Trip Blanks	2	6/23/2016 16:09	Sodium Bisulfate

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Sample Administration Receipt Documentation Log

Doc Log ID: 151668

Group Number(s): 1676229

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	06/25/2016 9:30
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	NaH2SO4
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Karen Diem (3060) at 10:36 on 06/25/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.1	DT	Wet	Y	Bagged	N

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: July 12, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 06/25/2016
Group Number: 1676230
SDG: FCP03
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
BK-4-0-2-062316 Grab Soil	8445790
BK-4-2-4-062316 Grab Soil	8445791
DT-8-0-2-062316_offset Grab Soil	8445792
DT-8-2-4-062316_offset Grab Soil	8445793
BK-3-0-2-062316 Grab Soil	8445794
BK-3-0-2-062316-MS Grab Soil	8445795
BK-3-0-2-062316-MSD Grab Soil	8445796
BK-3-0-2-062316-DUP Grab Soil	8445797
BK-3-2-4-062316 Grab Soil	8445798
BK-DUP2-062316 Grab Soil	8445799
BK-7-0-2-062316 Grab Soil	8445800
BK-7-2-4-062316 Grab Soil	8445801
BK-1-0-2-062316 Grab Soil	8445802

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1676230

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8270D, GC/MS Semivolatiles

Batch #: 16178SLD026 (Sample number(s): 8445792 UNSPK: P445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(a)pyrene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Benzo(a)pyrene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) MSD

SW-846 8082A Feb 2007 Rev 1, Pesticides/PCBs

Batch #: 161880028A (Sample number(s): 8445792 UNSPK: P445785)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: PCB-1016, PCB-1260

SW-846 6010C, Metals

Batch #: 161870637002 (Sample number(s): 8445794-8445797, 8445802 UNSPK: 8445794 BKG: 8445794)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Lead, Manganese

Batch #: 161880637001 (Sample number(s): 8445790-8445793, 8445798-8445801 UNSPK: 8445793 BKG: 8445793)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Lead, Manganese, Nickel

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Nickel

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Manganese

SW-846 6020A, Metals

Batch #: 161820637005A (Sample number(s): 8445790-8445792, 8445794-8445801 UNSPK: 8445794 BKG: 8445794)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony

Batch #: 161870637002A (Sample number(s): 8445802 UNSPK: P445794 BKG: P445794)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Antimony, Chromium, Arsenic

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Analysis Report

Sample Description: BK-4-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445790
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 09:32 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP31 SDG#: FCP03-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	3.67	0.958	0.115	1
06953	Copper	7440-50-8	65.9	1.92	0.220	1
06955	Lead	7439-92-1	74.8	2.87	0.527	1
06958	Manganese	7439-96-5	214	0.958	0.0795	1
06961	Nickel	7440-02-0	11.6	1.92	0.287	1
06972	Zinc	7440-66-6	63.0	3.83	0.651	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	3.96	0.409	0.100	2
06125	Arsenic	7440-38-2	8.00	0.819	0.151	2
06128	Cadmium	7440-43-9	< 0.205	0.205	0.0397	2
06131	Chromium	7440-47-3	19.1	0.819	0.121	2
06141	Selenium	7782-49-2	< 0.819	0.819	0.0894	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.0979	0.0979	0.0098	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161880637001	07/08/2016	18:01	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161880637001	07/08/2016	12:20	Eric L Eby	1
06955	Lead	SW-846 6010C	1	161880637001	07/08/2016	12:20	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	12:20	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	161880637001	07/08/2016	12:20	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	161880637001	07/08/2016	12:20	Eric L Eby	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	00:44	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	00:44	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	00:44	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	00:44	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016	00:44	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:20	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: BK-4-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445790
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 09:32 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP31 SDG#: FCP03-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016 22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: BK-4-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445791
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 09:55 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP32 SDG#: FCP03-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	4.16	1.07	0.128	1
06953	Copper	7440-50-8	36.3	2.13	0.245	1
06955	Lead	7439-92-1	72.2	3.20	0.586	1
06958	Manganese	7439-96-5	188	1.07	0.0885	1
06961	Nickel	7440-02-0	5.82	2.13	0.320	1
06972	Zinc	7440-66-6	81.0	4.26	0.725	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.758	0.407	0.0999	2
06125	Arsenic	7440-38-2	4.83	0.814	0.150	2
06128	Cadmium	7440-43-9	< 0.203	0.203	0.0395	2
06131	Chromium	7440-47-3	10.8	0.814	0.120	2
06141	Selenium	7782-49-2	< 0.814	0.814	0.0889	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.111	0.111	0.0111	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161880637001	07/08/2016	18:04	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161880637001	07/08/2016	12:23	Eric L Eby	1
06955	Lead	SW-846 6010C	1	161880637001	07/08/2016	12:23	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	12:23	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	161880637001	07/08/2016	12:23	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	161880637001	07/08/2016	12:23	Eric L Eby	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	00:51	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	00:51	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	00:51	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	00:51	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016	00:51	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:22	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: BK-4-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445791
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 09:55 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP32 SDG#: FCP03-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016 22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-8-0-2-062316_offset Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445792
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 10:07 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP33 SDG#: FCP03-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene	50-32-8	1,300	180	34	10
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1016	12674-11-2	< 17	17	3.7	1
10885	PCB-1221	11104-28-2	< 17	17	4.7	1
10885	PCB-1232	11141-16-5	< 17	17	8.2	1
10885	PCB-1242	53469-21-9	< 17	17	3.4	1
10885	PCB-1248	12672-29-6	< 17	17	3.4	1
10885	PCB-1254	11097-69-1	< 17	17	3.4	1
10885	PCB-1260	11096-82-5	72	17	5.0	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	76.0	1.99	0.229	1
06955	Lead	7439-92-1	237	2.99	0.549	1
06958	Manganese	7439-96-5	518	0.997	0.0828	1
06961	Nickel	7440-02-0	38.6	1.99	0.299	1
06972	Zinc	7440-66-6	195	3.99	0.678	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	11.8	0.403	0.0989	2
06125	Arsenic	7440-38-2	14.9	0.806	0.149	2
06128	Cadmium	7440-43-9	1.39	0.201	0.0391	2
06131	Chromium	7440-47-3	27.8	0.806	0.119	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.104	0.104	0.0104	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	3.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16178SLD026	06/30/2016 04:47	William H Saadeh	10

*=This limit was used in the evaluation of the final result

Sample Description: DT-8-0-2-062316_offset Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445792
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 10:07 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP33 SDG#: FCP03-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16178SLD026	06/28/2016	09:15	Michelle A Newswanger	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	161880028A	07/08/2016	07:23	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	161880028A	07/07/2016	09:15	Michelle A Newswanger	1
06953	Copper	SW-846 6010C	1	161880637001	07/08/2016	12:33	Eric L Eby	1
06955	Lead	SW-846 6010C	1	161880637001	07/08/2016	12:33	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	12:33	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	161880637001	07/08/2016	12:33	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	161880637001	07/08/2016	12:33	Eric L Eby	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	00:53	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	00:53	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	00:53	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	00:53	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:28	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016	07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016	22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016	11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016	23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DT-8-2-4-062316_offset Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445793
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 10:35 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP34 SDG#: FCP03-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06958	Manganese	7439-96-5	552	1.04	0.0865	1
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.124	0.103	0.0103	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	11:59	Eric L Eby	1
00159	Mercury	SW-846 7471B	1	161870638002	07/08/2016	15:56	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016	07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016	22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161870638002	07/07/2016	11:50	Ann Borg	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016	23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: BK-3-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445794
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.68	0.917	0.110	1
06953	Copper	7440-50-8	29.8	1.83	0.211	1
06955	Lead	7439-92-1	26.4	2.75	0.505	1
06958	Manganese	7439-96-5	379	0.917	0.0761	1
06961	Nickel	7440-02-0	11.3	1.83	0.275	1
06972	Zinc	7440-66-6	71.9	3.67	0.624	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.455	0.455	0.112	2
06125	Arsenic	7440-38-2	3.92	0.910	0.168	2
06128	Cadmium	7440-43-9	< 0.228	0.228	0.0441	2
06131	Chromium	7440-47-3	34.8	0.910	0.134	2
06141	Selenium	7782-49-2	< 0.910	0.910	0.0994	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.112	0.112	0.0112	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161870637002	07/07/2016 05:09	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	161870637002	07/07/2016 05:09	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	161870637002	07/07/2016 05:09	Joanne M Gates	1
06958	Manganese	SW-846 6010C	1	161870637002	07/07/2016 05:09	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	161870637002	07/07/2016 05:09	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	161870637002	07/07/2016 05:09	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016 00:28	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016 00:28	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016 00:28	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016 00:28	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016 00:28	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016 07:56	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1

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Analysis Report

Sample Description: BK-3-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445794
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161870637002	07/06/2016 06:35	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: BK-3-0-2-062316-MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445795
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	54.4	1.08	0.130	1
06953	Copper	7440-50-8	60.5	2.17	0.249	1
06955	Lead	7439-92-1	45.5	3.25	0.596	1
06958	Manganese	7439-96-5	477	1.08	0.0899	1
06961	Nickel	7440-02-0	60.7	2.17	0.325	1
06972	Zinc	7440-66-6	128	4.33	0.737	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.514	0.429	0.105	2
06125	Arsenic	7440-38-2	5.86	0.859	0.158	2
06128	Cadmium	7440-43-9	1.21	0.215	0.0416	2
06131	Chromium	7440-47-3	43.8	0.859	0.127	2
06141	Selenium	7782-49-2	2.67	0.859	0.0938	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.232	0.112	0.0112	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	12.1	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161870637002	07/07/2016 05:18	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	161870637002	07/07/2016 05:18	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	161870637002	07/07/2016 05:18	Joanne M Gates	1
06958	Manganese	SW-846 6010C	1	161870637002	07/07/2016 05:18	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	161870637002	07/07/2016 05:18	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	161870637002	07/07/2016 05:18	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016 00:35	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016 00:35	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016 00:35	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016 00:35	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016 00:35	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016 08:06	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161870637002	07/06/2016 06:35	James L Mertz	1

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Analysis Report

Sample Description: BK-3-0-2-062316-MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445795
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00118	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: BK-3-0-2-062316-MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445796
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	52.0	1.07	0.129	1
06953	Copper	7440-50-8	59.2	2.15	0.247	1
06955	Lead	7439-92-1	49.5	3.22	0.590	1
06958	Manganese	7439-96-5	470	1.07	0.0891	1
06961	Nickel	7440-02-0	58.5	2.15	0.322	1
06972	Zinc	7440-66-6	127	4.29	0.730	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.495	0.433	0.106	2
06125	Arsenic	7440-38-2	5.89	0.867	0.160	2
06128	Cadmium	7440-43-9	1.19	0.217	0.0420	2
06131	Chromium	7440-47-3	44.7	0.867	0.128	2
06141	Selenium	7782-49-2	2.62	0.867	0.0947	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.233	0.108	0.0108	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	12.1	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161870637002	07/07/2016 05:22	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	161870637002	07/07/2016 05:22	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	161870637002	07/07/2016 05:22	Joanne M Gates	1
06958	Manganese	SW-846 6010C	1	161870637002	07/07/2016 05:22	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	161870637002	07/07/2016 05:22	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	161870637002	07/07/2016 05:22	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016 00:37	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016 00:37	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016 00:37	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016 00:37	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016 00:37	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016 08:08	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161870637002	07/06/2016 06:35	James L Mertz	1

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Analysis Report

Sample Description: BK-3-0-2-062316-MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445796
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00118	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: BK-3-0-2-062316-DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445797
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	8.91	1.08	0.130	1
06953	Copper	7440-50-8	28.9	2.17	0.249	1
06955	Lead	7439-92-1	26.0	3.25	0.596	1
06958	Manganese	7439-96-5	440	1.08	0.0899	1
06961	Nickel	7440-02-0	11.1	2.17	0.325	1
06972	Zinc	7440-66-6	69.8	4.33	0.737	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.429	0.429	0.105	2
06125	Arsenic	7440-38-2	4.05	0.859	0.158	2
06128	Cadmium	7440-43-9	< 0.215	0.215	0.0416	2
06131	Chromium	7440-47-3	34.3	0.859	0.127	2
06141	Selenium	7782-49-2	< 0.859	0.859	0.0938	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.107	0.107	0.0107	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	12.1	0.50	0.50	1
00121	Moisture Duplicate	n.a.	11.9	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161870637002	07/07/2016	05:15	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	161870637002	07/07/2016	05:15	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	161870637002	07/07/2016	05:15	Joanne M Gates	1
06958	Manganese	SW-846 6010C	1	161870637002	07/07/2016	05:15	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	161870637002	07/07/2016	05:15	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	161870637002	07/07/2016	05:15	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	00:32	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	00:32	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	00:32	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	00:32	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016	00:32	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:04	Damary Valentin	1

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Analysis Report

Sample Description: BK-3-0-2-062316-DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445797
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:06 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP35 SDG#: FCP03-05DUP

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161870637002	07/06/2016 06:35	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00118	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

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Analysis Report

Sample Description: BK-3-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445798
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:14 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP36 SDG#: FCP03-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	12.0	1.18	0.142	1
06953	Copper	7440-50-8	20.8	2.37	0.272	1
06955	Lead	7439-92-1	18.6	3.55	0.651	1
06958	Manganese	7439-96-5	341	1.18	0.0983	1
06961	Nickel	7440-02-0	15.7	2.37	0.355	1
06972	Zinc	7440-66-6	63.8	4.74	0.805	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.478	0.478	0.117	2
06125	Arsenic	7440-38-2	2.84	0.957	0.176	2
06128	Cadmium	7440-43-9	< 0.239	0.239	0.0464	2
06131	Chromium	7440-47-3	36.9	0.957	0.141	2
06141	Selenium	7782-49-2	< 0.957	0.957	0.105	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.123	0.123	0.0123	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	18.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161880637001	07/08/2016	18:07	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161880637001	07/08/2016	12:37	Eric L Eby	1
06955	Lead	SW-846 6010C	1	161880637001	07/08/2016	12:37	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	12:37	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	161880637001	07/08/2016	12:37	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	161880637001	07/08/2016	12:37	Eric L Eby	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	00:55	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	00:55	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	00:55	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	00:55	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016	00:55	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:30	Damary Valentin	1

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Analysis Report

Sample Description: BK-3-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445798
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:14 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP36 SDG#: FCP03-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016 22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

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Analysis Report

Sample Description: BK-DUP2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445799
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP37 SDG#: FCP03-07FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	10.4	1.15	0.138	1
06953	Copper	7440-50-8	19.2	2.29	0.264	1
06955	Lead	7439-92-1	17.1	3.44	0.631	1
06958	Manganese	7439-96-5	320	1.15	0.0952	1
06961	Nickel	7440-02-0	15.7	2.29	0.344	1
06972	Zinc	7440-66-6	59.6	4.59	0.780	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.472	0.472	0.116	2
06125	Arsenic	7440-38-2	2.87	0.944	0.174	2
06128	Cadmium	7440-43-9	< 0.236	0.236	0.0458	2
06131	Chromium	7440-47-3	36.2	0.944	0.139	2
06141	Selenium	7782-49-2	< 0.944	0.944	0.103	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.118	0.118	0.0118	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	19.3	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161880637001	07/08/2016	18:18	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161880637001	07/08/2016	12:40	Eric L Eby	1
06955	Lead	SW-846 6010C	1	161880637001	07/08/2016	12:40	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	12:40	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	161880637001	07/08/2016	12:40	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	161880637001	07/08/2016	12:40	Eric L Eby	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	00:58	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	00:58	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	00:58	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	00:58	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016	00:58	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:32	Damary Valentin	1

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Analysis Report

Sample Description: BK-DUP2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445799
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:00 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP37 SDG#: FCP03-07FD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016 22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

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Analysis Report

Sample Description: BK-7-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445800
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:24 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP38 SDG#: FCP03-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	2.95	0.969	0.116	1
06953	Copper	7440-50-8	21.7	1.94	0.223	1
06955	Lead	7439-92-1	35.2	2.91	0.533	1
06958	Manganese	7439-96-5	325	0.969	0.0805	1
06961	Nickel	7440-02-0	5.68	1.94	0.291	1
06972	Zinc	7440-66-6	53.7	3.88	0.659	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.374	0.374	0.0918	2
06125	Arsenic	7440-38-2	3.26	0.748	0.138	2
06128	Cadmium	7440-43-9	0.293	0.187	0.0363	2
06131	Chromium	7440-47-3	8.97	0.748	0.110	2
06141	Selenium	7782-49-2	< 0.748	0.748	0.0817	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.102	0.102	0.0102	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	3.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161880637001	07/08/2016	18:21	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161880637001	07/08/2016	12:44	Eric L Eby	1
06955	Lead	SW-846 6010C	1	161880637001	07/08/2016	12:44	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	12:44	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	161880637001	07/08/2016	12:44	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	161880637001	07/08/2016	12:44	Eric L Eby	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	01:00	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	01:00	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	01:00	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	01:00	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016	01:00	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:34	Damary Valentin	1

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Analysis Report

Sample Description: BK-7-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445800
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:24 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP38 SDG#: FCP03-08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016 22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: BK-7-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445801
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:30 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP39 SDG#: FCP03-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	3.57	1.06	0.127	1
06953	Copper	7440-50-8	4.84	2.11	0.243	1
06955	Lead	7439-92-1	5.90	3.17	0.581	1
06958	Manganese	7439-96-5	190	1.06	0.0876	1
06961	Nickel	7440-02-0	10.8	2.11	0.317	1
06972	Zinc	7440-66-6	31.2	4.22	0.718	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.316	0.316	0.0775	2
06125	Arsenic	7440-38-2	1.26	0.632	0.117	2
06128	Cadmium	7440-43-9	< 0.158	0.158	0.0306	2
06131	Chromium	7440-47-3	10.7	0.632	0.0933	2
06141	Selenium	7782-49-2	< 0.632	0.632	0.0690	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.105	0.105	0.0105	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	6.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161880637001	07/08/2016	18:24	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010C	1	161880637001	07/08/2016	12:47	Eric L Eby	1
06955	Lead	SW-846 6010C	1	161880637001	07/08/2016	12:47	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	161880637001	07/08/2016	12:47	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	161880637001	07/08/2016	12:47	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	161880637001	07/08/2016	12:47	Eric L Eby	1
06124	Antimony	SW-846 6020A	1	161820637005A	07/04/2016	01:02	Tara L Snyder	2
06125	Arsenic	SW-846 6020A	1	161820637005A	07/04/2016	01:02	Tara L Snyder	2
06128	Cadmium	SW-846 6020A	1	161820637005A	07/04/2016	01:02	Tara L Snyder	2
06131	Chromium	SW-846 6020A	1	161820637005A	07/04/2016	01:02	Tara L Snyder	2
06141	Selenium	SW-846 6020A	1	161820637005B	07/04/2016	01:02	Tara L Snyder	2
00159	Mercury	SW-846 7471B	1	161810638001	07/01/2016	08:36	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: BK-7-2-4-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445801
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:30 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FCP39 SDG#: FCP03-09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161820637005	07/01/2016 07:30	Lisa J Cooke	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	2	161880637001	07/07/2016 22:12	Annamaria Kuhns	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161810638001	06/30/2016 11:30	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: BK-1-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445802
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:40 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC310 SDG#: FCP03-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.02	1.02	0.123	1
06953	Copper	7440-50-8	15.7	2.05	0.235	1
06955	Lead	7439-92-1	26.2	3.07	0.563	1
06958	Manganese	7439-96-5	316	1.02	0.0849	1
06961	Nickel	7440-02-0	6.92	2.05	0.307	1
06972	Zinc	7440-66-6	42.4	4.09	0.696	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.409	0.409	0.100	2
06125	Arsenic	7440-38-2	2.66	0.818	0.151	2
06128	Cadmium	7440-43-9	< 0.205	0.205	0.0397	2
06131	Chromium	7440-47-3	21.7	0.818	0.121	2
06141	Selenium	7782-49-2	< 0.818	0.818	0.0894	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.164	0.107	0.0107	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	6.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06952	Cobalt	SW-846 6010C	1	161870637002	07/07/2016 05:28	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	161870637002	07/07/2016 05:28	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	161870637002	07/07/2016 05:28	Joanne M Gates	1
06958	Manganese	SW-846 6010C	1	161870637002	07/07/2016 05:28	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	161870637002	07/07/2016 05:28	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	161870637002	07/07/2016 05:28	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	161870637002A	07/07/2016 07:30	Choon Y Tian	2
06125	Arsenic	SW-846 6020A	1	161870637002A	07/07/2016 07:30	Choon Y Tian	2
06128	Cadmium	SW-846 6020A	1	161870637002A	07/07/2016 07:30	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	161870637002A	07/07/2016 07:30	Choon Y Tian	2
06141	Selenium	SW-846 6020A	1	161870637002B	07/07/2016 07:30	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	161830638001	07/06/2016 16:05	Parker D Lindstrom	1

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Analysis Report

Sample Description: BK-1-0-2-062316 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8445802
LL Group # 1676230
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 06/23/2016 12:40 by TP

Submitted: 06/25/2016 09:30
Reported: 07/12/2016 18:23

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

FC310 SDG#: FCP03-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	161870637002	07/06/2016 06:35	James L Mertz	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	161830638001	07/05/2016 10:20	Suzanne M Williams	1
00111	Moisture	SM 2540 G-1997	1	16183820007B	07/01/2016 23:01	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676230
Reported: 07/12/2016 18:23

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
Batch number: 16178SLD026	Sample number(s): 8445792		
Benzo(a)pyrene	< 17	17	3
Batch number: 161880028A	Sample number(s): 8445792		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
PCB-1260	< 17	17	4.9
	mg/kg	mg/kg	mg/kg
Batch number: 161810638001	Sample number(s): 8445790-8445792,8445794-8445801		
Mercury	< 0.100	0.100	0.0100
Batch number: 161820637005A	Sample number(s): 8445790-8445792,8445794-8445801		
Antimony	< 0.400	0.400	0.0982
Arsenic	< 0.800	0.800	0.148
Cadmium	< 0.200	0.200	0.0388
Chromium	< 0.800	0.800	0.118
Batch number: 161820637005B	Sample number(s): 8445790-8445791,8445794-8445801		
Selenium	< 0.800	0.800	0.0874
Batch number: 161830638001	Sample number(s): 8445802		
Mercury	< 0.100	0.100	0.0100
Batch number: 161870637002	Sample number(s): 8445794-8445797,8445802		
Cobalt	< 1.00	1.00	0.120
Copper	< 2.00	2.00	0.230
Lead	< 3.00	3.00	0.550
Manganese	< 1.00	1.00	0.0830
Nickel	< 2.00	2.00	0.300
Zinc	< 4.00	4.00	0.680
Batch number: 161870637002A	Sample number(s): 8445802		
Antimony	< 0.400	0.400	0.0982
Arsenic	< 0.800	0.800	0.148
Cadmium	< 0.200	0.200	0.0388
Chromium	< 0.800	0.800	0.118
Batch number: 161870637002B	Sample number(s): 8445802		
Selenium	< 0.800	0.800	0.0874
Batch number: 161870638002	Sample number(s): 8445793		
Mercury	< 0.100	0.100	0.0100

*- Outside of specification
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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676230
Reported: 07/12/2016 18:23

Method Blank (continued)

Analysis Name	Result	LOQ**	MDL
	mg/kg	mg/kg	mg/kg
Batch number: 161880637001	Sample number(s): 8445790-8445793,8445798-8445801		
Cobalt	< 1.00	1.00	0.120
Copper	< 2.00	2.00	0.230
Lead	< 3.00	3.00	0.550
Manganese	< 1.00	1.00	0.0830
Nickel	< 2.00	2.00	0.300
Zinc	< 4.00	4.00	0.680

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16178SLD026	Sample number(s): 8445792								
Benzo(a)pyrene	1666.67	1590.98			95		85-117		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 161880028A	Sample number(s): 8445792								
PCB-1016	168	156.88			93		76-121		
PCB-1260	168	157.25			94		79-130		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161810638001	Sample number(s): 8445790-8445792,8445794-8445801								
Mercury	0.100	0.0959			96		80-120		
Batch number: 161820637005A	Sample number(s): 8445790-8445792,8445794-8445801								
Antimony	0.600	0.598			100		80-120		
Arsenic	1.00	1.04			104		80-120		
Cadmium	0.500	0.502			100		80-120		
Chromium	5.00	5.25			105		80-120		
Batch number: 161820637005B	Sample number(s): 8445790-8445791,8445794-8445801								
Selenium	1.00	1.00			100		80-120		
Batch number: 161830638001	Sample number(s): 8445802								
Mercury	0.100	0.0928			93		80-120		
Batch number: 161870637002	Sample number(s): 8445794-8445797,8445802								
Cobalt	50	47.81			96		80-120		
Copper	25	24.4			98		80-120		
Lead	15	14.05			94		80-120		
Manganese	50	47.44			95		80-120		
Nickel	50	48.2			96		80-120		
Zinc	50	46.03			92		80-120		
Batch number: 161870637002A	Sample number(s): 8445802								
Antimony	0.600	0.671			112		80-120		
Arsenic	1.00	1.02			102		80-120		
Cadmium	0.500	0.496			99		80-120		

*- Outside of specification
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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676230
Reported: 07/12/2016 18:23

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chromium	5.00	5.56			111		80-120		
Batch number: 161870637002B	Sample number(s): 8445802								
Selenium	1.00	0.968			97		80-120		
Batch number: 161870638002	Sample number(s): 8445793								
Mercury	0.100	0.0918			92		80-120		
Batch number: 161880637001	Sample number(s): 8445790-8445793,8445798-8445801								
Cobalt	50	51.63			103		80-120		
Copper	25	25.28			101		80-120		
Lead	15	15.18			101		80-120		
Manganese	50	50.79			102		80-120		
Nickel	50	51.48			103		80-120		
Zinc	50	50.34			101		80-120		
	%	%	%	%					
Batch number: 16183820007B	Sample number(s): 8445790-8445802								
Moisture	89.5	89.46			100		99-101		
Moisture	89.5	89.46			100		99-101		
Moisture Duplicate	89.5	89.46			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 16178SLD026	Sample number(s): 8445792 UNSPK: P445785									
Benzo(a)pyrene	51.76	1650.17	881.7	1644.74	441.93	50*	24*	85-117	66*	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 161880028A	Sample number(s): 8445792 UNSPK: P445785									
PCB-1016	< 17	167	114.79	167	120.03	69*	72*	76-121	4	50
PCB-1260	< 17	166	121.99	167	125.34	73*	75*	79-130	3	50
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161810638001	Sample number(s): 8445790-8445792,8445794-8445801 UNSPK: 8445794									
Mercury	0.0533	0.164	0.204	0.159	0.205	92	96	80-120	0	20
Batch number: 161820637005A	Sample number(s): 8445790-8445792,8445794-8445801 UNSPK: 8445794									
Antimony	0.162	1.13	0.452	1.14	0.435	26*	24*	75-125	4	20
Arsenic	3.44	1.89	5.15	1.90	5.17	91	91	75-125	0	20
Cadmium	0.127	0.943	1.07	0.952	1.05	100	97	75-125	2	20
Chromium	30.58	9.43	38.53	9.52	39.3	84	92	75-125	2	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676230
Reported: 07/12/2016 18:23

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 161820637005B	Sample number(s): 8445790-8445791,8445794-8445801 UNSPK: 8445794									
Selenium	0.690	1.89	2.34	1.90	2.30	88	85	75-125	2	20
Batch number: 161830638001	Sample number(s): 8445802 UNSPK: P438353									
Mercury	0.0231	0.154	0.180	0.167	0.186	102	97	80-120	3	20
Batch number: 161870637002	Sample number(s): 8445794-8445797,8445802 UNSPK: 8445794									
Cobalt	6.75	47.62	47.84	47.17	45.68	86	83	75-125	5	20
Copper	26.17	23.81	53.18	23.58	52.06	113	110	75-125	2	20
Lead	23.25	14.29	40.03	14.15	43.48	117	143*	75-125	8	20
Manganese	332.96	47.62	418.87	47.17	413.4	180 (2)	171 (2)	75-125	1	20
Nickel	9.90	47.62	53.34	47.17	51.38	91	88	75-125	4	20
Zinc	63.24	47.62	112.29	47.17	111.64	103	103	75-125	1	20
Batch number: 161870637002A	Sample number(s): 8445802 UNSPK: P445794									
Antimony	0.152	1.14	0.507	1.13	0.575	31*	37*	75-125	13	20
Arsenic	3.71	1.90	6.17	1.89	5.72	129*	107	75-125	8	20
Cadmium	0.149	0.952	1.13	0.943	1.08	103	99	75-125	4	20
Chromium	34.13	9.52	49.66	9.43	48.33	163*	151*	75-125	3	20
Batch number: 161870637002B	Sample number(s): 8445802 UNSPK: P445794									
Selenium	0.667	1.90	2.35	1.89	2.33	88	88	75-125	1	20
Batch number: 161870638002	Sample number(s): 8445793 UNSPK: P458631									
Mercury	0.164	0.162	0.301	0.157	0.315	85	96	80-120	5	20
Batch number: 161880637001	Sample number(s): 8445790-8445793,8445798-8445801 UNSPK: 8445793, P445793									
Cobalt	6.82	49.02	48.35	49.02	49.57	85	87	75-125	2	20
Copper	35.44	24.51	55.89	24.51	56.32	83	85	75-125	1	20
Lead	97.73	14.71	101.43	14.71	103.55	25 (2)	40 (2)	75-125	2	20
Manganese	524.1	49.02	552.1	49.02	494.58	57 (2)	-60 (2)	75-125	11	20
Nickel	14.75	49.02	51.81	49.02	81.91	76	137*	75-125	45*	20
Zinc	113.38	49.02	152.56	49.02	155.3	80	86	75-125	2	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 161810638001	Sample number(s): 8445790-8445792,8445794-8445801 BKG: 8445794			
Mercury	0.0533	0.0490	9 (1)	20
Batch number: 161820637005A	Sample number(s): 8445790-8445792,8445794-8445801 BKG: 8445794			
Antimony	0.162	0.153	6 (1)	20
Arsenic	3.44	3.56	3 (1)	20
Cadmium	0.127	0.155	20 (1)	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1676230
Reported: 07/12/2016 18:23

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Chromium	30.58	30.15	1	20
Batch number: 161820637005B	Sample number(s): 8445790-8445791,8445794-8445801 BKG: 8445794			
Selenium	0.690	0.619	11 (1)	20
Batch number: 161830638001	Sample number(s): 8445802 BKG: P438353			
Mercury	0.0231	0.0260	12 (1)	20
Batch number: 161870637002	Sample number(s): 8445794-8445797,8445802 BKG: 8445794			
Cobalt	6.75	7.84	15	20
Copper	26.17	25.38	3	20
Lead	23.25	22.87	2	20
Manganese	332.96	386.61	15	20
Nickel	9.90	9.78	1	20
Zinc	63.24	61.37	3	20
Batch number: 161870637002A	Sample number(s): 8445802 BKG: P445794			
Antimony	0.152	0.168	10 (1)	20
Arsenic	3.71	3.66	1 (1)	20
Cadmium	0.149	0.128	15 (1)	20
Chromium	34.13	37.76	10	20
Batch number: 161870637002B	Sample number(s): 8445802 BKG: P445794			
Selenium	0.667	0.714	7 (1)	20
Batch number: 161870638002	Sample number(s): 8445793 BKG: P458631			
Mercury	0.164	0.151	8 (1)	20
Batch number: 161880637001	Sample number(s): 8445790-8445793,8445798-8445801 BKG: 8445793, P445793			
Cobalt	6.82	7.65	12	20
Copper	35.44	35.66	1	20
Lead	97.73	89.96	8	20
Manganese	524.1	695.78	28*	20
Nickel	14.75	12.27	18	20
Zinc	113.38	123.29	8	20
	%	%		
Batch number: 16183820007B	Sample number(s): 8445790-8445802 BKG: 8445794, P445794			
Moisture	12.14	11.92	2	5
Moisture	12.14	11.92	2	5
Moisture Duplicate	12.14	11.92	2	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: SVOA 8270D (microwave)
Batch number: 16178SLD026

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 07/12/2016 18:23

Group Number: 1676230

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8445792	79	79	79	88	93	93
Blank	92	98	108	94	89	100
LCS	88	91	112	90	90	97
MS	70	68	61	79	80	78
MSD	38*	36*	34*	47*	44*	42*
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: PCBs 8082A
Batch number: 161880028A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8445792	91	79
Blank	122	96
LCS	110	97
MS	80	80
MSD	84	84
Limits:	53-140	45-143

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Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1676230 Sample # 8445790-802

COC # 503828

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: Steven Aufden Kampe	P.O. #: SA14.127-001
Sampler: Terrell Parker & Ferdinand Maujia	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Soil ☑ Sediment ☐ Tissue ☐ | Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Other:

Analysis Requested — Preservation Codes

For Lab Use Only
FSC:
SCR#: 190337

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Hg by 7471	Metals 6010C Co, Cu, Pb, Mn, Ni, Zn	Metals 6020 Sb, As, Cd, Cr, Se	Metals 6010C Cu, Pb, Mn, Ni, Zn	Metals 6020 Sb, As, Cd, Cr	PCBs 8082	Benzo-a-pyrene 8270D	Metals 6010C Mn	Metals 6020		Remarks
BK-4-0-2-062316	6/23/16	09:32	✓		✓			1	✓	✓	✓								
BK-4-2-4-062316	6/23/16	09:55	✓		✓			1	✓	✓	✓								
DT-8-0-2-062316 offset	6/23/16	10:07	✓		✓			1	✓			✓	✓	✓	✓				60', offset to S 25'
DT-8-2-4-062316 offset	6/23/16	10:35	✓		✓			1								✓			60', offset to S 25'
BK-3-0-2-062316	6/23/16	12:06	✓		✓			1	✓	✓	✓								+ ms/msD *
BK-3-2-4-062316	6/23/16	12:14	✓		✓			1	✓	✓	✓								
BK-Dup2-062316	6/23/16	12:00	✓		✓			1	✓	✓	✓								
BK-7-0-2-062316	6/23/16	12:24	✓		✓			1	✓	✓	✓								
BK-7-2-4-062316	6/23/16	12:30	✓		✓			1	✓	✓	✓								
BK-1-0-2-062316	6/23/16	12:40	✓		✓														

ONE *16oz. jar is plenty for parent/ms/msD + moisture.

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:
E-mail address: john.jolly@amecfw.com judy.hartness@amecfw.com

Relinquished by	Date	Time	Received by	Date	Time
James T. Parker	6/23/16	18:25			
			Karen Diem	6/25/16	930

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)
Type III (Reduced non-CLP) | NJ DKQP | TX TRRP-13
NYSDEC Category A or B | MA MCP | CT RCP

EDD Required? Yes No
If yes, format: EQUIS

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature upon receipt 1.1 °C

1676230

Katherine Klinefelter

From: Hartness, Judy A <judy.hartness@amecfw.com>
Sent: Friday, June 24, 2016 6:15 PM
To: Angela Miller
Cc: Katherine Klinefelter
Subject: RE: Norfolk Southern COCs and Airbill
Attachments: COC-04-NS-Columbus, GA_062316.pdf; NS Columbus - Phase II Soil Analyses-r1.xlsx

Importance: High

Here's revised chains and a revised sample table for the NS Former Cohn Property, Columbus, GA job for soil sample you probably received today.

I'm sorry I am just now getting to this.

Some samples were not collected and some of the QC was moved.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: Hartness, Judy A
Sent: Thursday, June 23, 2016 12:16 PM
To: 'Angela Miller' <AngelaMiller@eurofinsUS.com>
Cc: Katherine Klinefelter <KatherineKlinefelter@eurofinsus.com>
Subject: RE: Norfolk Southern COCs and Airbill
Importance: High

Take a look at this table and revised COCs.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Thursday, June 23, 2016 11:01 AM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Cc: Katherine Klinefelter <KatherineKlinefelter@eurofinsus.com>
Subject: RE: Norfolk Southern COCs and Airbill

Thank you.

Angela Miller
Specialist

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

USA
Phone: +1 717-556-7260

1676230

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www.EurofinsUS.com/Env

From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Thursday, June 23, 2016 10:56 AM
To: Angela Miller
Subject: RE: Norfolk Southern COCs and Airbill

The analyses are kind of complicated. I have attached the list we sent to Kathy for analyses to be analyzed at each location and depth.

In the mean time I will check the COCs with this table to make sure they are correct.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
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T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Thursday, June 23, 2016 10:46 AM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Subject: RE: Norfolk Southern COCs and Airbill

Thank you, Judith. I have provided to our sample registration department.

Angela Miller
Specialist

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601
USA
Phone: +1 717-556-7260

Look for Eurofins Lancaster Laboratories Environmental at these upcoming conferences and industry events.

www.EurofinsUS.com/Env

From: Hartness, Judy A [mailto:judy.hartness@amecfw.com]
Sent: Wednesday, June 22, 2016 8:24 PM
To: Angela Miller
Subject: FW: Norfolk Southern COCs and Airbill

1676230

Angela,
Kathy's email indicates you are her contact in her absence. I have attached the COCs for the Norfolk Southern Former Cohn Property Soil samples that you should receive on Thursday 6-23-16.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
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judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: Hartness, Judy A
Sent: Wednesday, June 22, 2016 8:21 PM
To: 'Katherine Klinefelter' <KatherineKlinefelter@eurofinsus.com>
Cc: Jolly, John <john.jolly@amec.com>; Parker, Terrell <Terrell.Parker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>
Subject: FW: Norfolk Southern COCs and Airbill

Here are the COCs for the Norfolk Southern Former Cohn Property Soil samples.

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360 judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: TP [mailto:jterrell.parker@gmail.com]
Sent: Wednesday, June 22, 2016 7:04 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>
Subject: Norfolk Southern COCs and Airbill

Judy:
Please forward to Eurofins contact.
Thanks,
Terrell

amec
foster
wheeler

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Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only
Acct. # 10302 Group # 1676230 Sample # 8445790-802

COC # 503828

Client Information

Client: Norfolk Southern
Acct. #:
Project Name/#: Former Cohn Property
PWSID #:
Project Manager: Steven Aufden Kampe
P.O. #: SA14.127-001
Sampler: Terrell Parker + Ferdinand Maria
Quote #:
State where samples were collected: GA
For Compliance: Yes ☐ No ☐

For Lab Use Only
FSC:
SCR#: 190337

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil ☑ Sediment ☐ Tissue ☐	Water: Potable ☐ Ground ☐ Surface ☐ NPDES ☐	Other:	Total # of Containers	1 4oz jar	1 4oz jar	1 4oz jar								Remarks
BK-4-0-2-062316	6/23/16	09:37	✓		✓			1	✓	✓	✓								
BK-4-2-4-062316	6/23/16	09:55	✓		✓			1	✓	✓	✓								
DT-8-0-2-062316 offset	6/23/16	10:07	✓		✓			1	✓			✓	✓	✓	✓				60' offset to S 25'
DT-8-2-4-062316 offset	6/23/16	10:35	✓		✓			1	✓		jah 6/24/16					✓			60' offset to S 25'
BK-3-0-2-062316	6/23/16	12:06	✓		✓			1	✓	✓	✓								+ ms/msD *
BK-3-2-4-062316	6/23/16	12:14	✓		✓			1	✓	✓	✓								
BK-Dup 2-062316	6/23/16	12:00	✓		✓			1	✓	✓	✓								
BK-7-0-2-062316	6/23/16	12:24	✓		✓			1	✓	✓	✓								
BK-7-2-4-062316	6/23/16	12:30	✓		✓			1	✓	✓	✓								
BK-1-0-2-062316	6/23/16	12:40	✓		✓			1	✓	✓	✓								jah 6/24/16

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:
E-mail address: John.Jolly@cmcellw.com

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	6/23/16	18:25			

EDD Required? Yes No
If yes, format: EQuIS
Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx ✓ Other ____
Temperature upon receipt ✓ °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0216

1676230

Norfolk Southern - Former Cohn Property
Phase II Soil Proposed Sampling and Analyses Scope

Location ID	Metals ICP 6010	Metals ICPMS 6020	Mercury 7471	PCBs 8082	SVOCs 8270	VOCs 8260	QC MA/MSD	QC DUP	
DT-1B-0-2	Cu,Pb,Mn	Sb,As	--	--	--	--	--		
~~DT-1B-2-4~~	~~Cu,Pb,Mn,Ni~~	~~As,Cd,Cr~~	--	--	--	--	--		NOT COLLECTED - HIT REFUSAL
DT-2-120-0-2	Cu,Pb,Mn	Sb,As	--	PCBs	BaP	--	MS/MSD (All)		had to move MS/MSD to surface soil (not enough subsurface soil) added PCBs and BaP to surface
DT-2-120-2-3	Pb,Mn,Ni	Sb, Cd,Cr	--	PCBs	BaP		~~MS/MSD (All)~~		
DT-3-40-0-2	Pb,Mn	--	--	--	--	PCE	--		
DT-3-40-2-4	Pb,Mn,Ni	Sb, Cd,Cr	--	PCBs	--	--	--		
DT-4-100-0-2	Pb,Mn	As,Se	--	--	BaP	--	--		
DT-4-50-2-4	Cu,Pb,Mn,Zn	Sb,As,Cd,Cr	--	PCBs	BaP	--	--		
DT-5-50-0-2	Cu,Pb,Mn	Sb, Cd	--	--	--	PCE		VOC DUP = DT-DUP-1	
DT-5-50-2-4	Pb,Mn	Sb, Cd	--	--	--	--	--		
DT-6-35-0-2	Pb,Mn	As,Se	--	--	BaP	--	--		
DT-6-35-2-4	Cu,Pb,Mn,Ni	Cr	--	PCBs	BaP	PCE	VOC MS/MSD		
DT-7-40-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd,Cr	Hg	--	BaP	--	--		
~~DT-7-2-4~~	~~Mn~~	--	--	--	--	--	--		NOT COLLECTED - HIT REFUSAL
DT-8-0-2 offset	Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	PCBs	BaP	--	--		
DT-8-2-4 offset	Mn	--	Hg	--	--	--	--		
DT-9-105-0-2	Cu,Pb,Mn,Ni,Zn	Cd,Cr	Hg	PCBs	BaP	--		Dup (All) = DT-DUP-~~2~~3	
DT-9-105-2-4	Mn,Zn	As,Cd,Cr	--	PCBs	--	--	--		
DT-10B-0-2	Cu,Pb,Mn,Zn	--	--	PCBs	--	--	--		
DT-10B-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	PCBs	--	--	--		
DT-11B-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd	--	PCBs	--	--	--		
DT-11B-2-4	Pb,Mn	--	--	PCBs	--	--	--		
DT-12B-0-2	Cu,Pb,Mn	--	--	--	--	--	--		
DT-12B-2-4	Cu,Pb,Mn,Ni	Sb, Cd,Cr	--	--	--	--	--		
Background Samples									
BK-1-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-1-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-2-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-2-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-3-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--	MS/MSD (All)	~~Dup (All)~~	
BK-3-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--		Dup (All)=BK-DUP-2	
BK-4-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-4-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-5-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
~~BK-5-2-4~~	~~Co,Cu,Pb,Mn,Ni,Zn~~	~~Sb,As,Cd,Cr,Se~~	~~Hg~~	--	--	--			NOT COLLECTED - HIT REFUSAL
BK-6-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
~~BK-6-2-4~~	~~Co,Cu,Pb,Mn,Ni,Zn~~	~~Sb,As,Cd,Cr,Se~~	~~Hg~~	--	--	--			NOT COLLECTED - HIT REFUSAL
BK-7-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-7-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-8-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-8-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-9-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-9-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-10-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--			
BK-10-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr,Se	Hg	--	--	--	~~MS/MSD (All)~~	Dup (All) = BK-Dup-4	

1676230

Katherine Klinefelter

From:	Hartness, Judy A <judy.hartness@amecfw.com>
Sent:	Thursday, June 30, 2016 12:55 PM
To:	Katherine Klinefelter
Cc:	Barker, Michelle; Mayila, Ferdinand K; Parker, Terrell
Subject:	RE: 1676230-Former Cohn Property/Columbus, GA-06/25/2016 9:30:00 Acknowledgement
Attachments:	EAcknow_1676230-jah.xls

Please add the word "offset" to sample IDs:

8445792 - DT-8-0-2-062316
8445793 - DT-8-2-4-062316

See attached revised acknowledgement.

Thank you,

Judith A. Hartness
Senior Environmental Scientist, Geo-Environmental, Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road, Suite 100, Kennesaw, Georgia 30144, USA
T +1 770-421-3400 D +1 770-421-3336 M +1 404-247-0360
judy.hartness@amecfw.com amecfw.com

-----Original Message-----
From: LLAutomatedReportingSystem@eurofins.com [mailto:LLAutomatedReportingSystem@eurofins.com]
Sent: Wednesday, June 29, 2016 8:07 PM
To: Hartness, Judy A <Judy.Hartness@amec.com>; Barker, Michelle <Michelle.Barker@amec.com>; Mayila, Ferdinand K <Ferdinand.Mayila@amec.com>
Subject: 1676230-Former Cohn Property/Columbus, GA-06/25/2016 9:30:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

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Lancaster Laboratories Environmental

1676230

Account: 10302
Client: Norfolk Southern Railway Co.
Group Number: 1676230
Samples: 8445790-8445802

Submitted: 06/25/16 09:30
P.O. Number: SA14.127-001
Project: Former Cohn Property/C

Release Number: 1440001625
Quote Number: 210900 A
SDG Number: FCP03

Sample #	Description	Collection Date/Time	06124-Antimony	06125-Arsenic	06128-Cadmium	06131-Chromium	06952-Cobalt	06953-Copper	06955-Lead	06958-Manganese	00159-Mercury	00111-Moisture	00118-Moisture	00121-Moisture Duplicate	06961-Nickel	10885-PCBs 8082A	10726-SVOA 8270D (microwave)	06141-Selenium	06972-Zinc						
8445790	BK-4-0-2-062316 Grab Soil	06/23/16 09:32	X	X	X	X	X	X	X	X	X	X			X			X	X						
8445791	BK-4-2-4-062316 Grab Soil	06/23/16 09:35	X	X	X	X	X	X	X	X	X	X			X			X	X						
8445792	DT-8-0-2-062316 offset Grab Soil	06/23/16 10:07	X	X	X	X		X	X	X	X	X			X	X	X		X						
8445793	DT-8-2-4-062316 offset Grab Soil	06/23/16 10:35								X	X	X													
8445794	BK-3-0-2-062316 Grab Soil	06/23/16 12:06	X	X	X	X	X	X	X	X	X	X			X			X	X						
8445795	BK-3-0-2-062316-MS Grab Soil	06/23/16 12:06	X	X	X	X	X	X	X	X	X		X		X			X	X						
8445796	BK-3-0-2-062316-MSD Grab Soil	06/23/16 12:06	X	X	X	X	X	X	X	X	X		X		X			X	X						
8445797	BK-3-0-2-062316-DUP Grab Soil	06/23/16 12:06	X	X	X	X	X	X	X	X	X		X	X	X			X	X						
8445798	BK-3-2-4-062316 Grab Soil	06/23/16 12:14	X	X	X	X	X	X	X	X	X	X			X			X	X						
8445799	BK-DUP2-062316 Grab Soil	06/23/16 12:00	X	X	X	X	X	X	X	X	X	X			X			X	X						
8445800	BK-7-0-2-062316 Grab Soil	06/23/16 12:24	X	X	X	X	X	X	X	X	X	X			X			X	X						
8445801	BK-7-2-4-062316 Grab Soil	06/23/16 12:30	X	X	X	X	X	X	X	X	X	X			X			X	X						
8445802	BK-1-0-2-062316 Grab Soil	06/23/16 12:40	X	X	X	X	X	X	X	X	X	X			X			X	X						

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 151595

Group Number(s): 1676230

Client: Amec Foster Wheeler

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	06/24/2016 9:30
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	No	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): Sodium Bisulfate

Unpacked by Joseph Huber (7831) at 16:06 on 06/24/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	2.4	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Client: Amec Foster Wheeler

Paperwork Not Enclosed Details

Sample ID on Label	No. of Containers	Date on Label	Comments
Equipment Blank-062316	8	6/23/2016 16:30	2 (PCBs) 2 (Benzo) 3 (HCL vials)
BK-DUP4-062316	1	6/23/2016 12:00	Moisture & Metals
BK-DUP4-062316	1	6/23/2016 12:00	Moisture & Metals
BK-8-0-2-062316	1	6/23/2016 14:00	Moisture & Metals
BK-8-2-4-062316	1	6/23/2016 14:05	Moisture & Metals
BK-10-0-2-062316	1	6/23/2016 14:02	Moisture & Metals
BK-10-2-4-062316	1	6/23/2016 14:11	Moisture & Metals
BK-2-0-2-062316	1	6/23/2016 14:20	Moisture & Metals
BK-2-2-4-062316	1	6/23/2016 14:22	Moisture & Metals
BK-5-0-2-062316	1	6/23/2016 14:25	Moisture & Metals
BK-6-0-2-062316	1	6/23/2016 14:30	Moisture & Metals
DT-2-120-0-2-062316	1	6/23/2016 15:37	Moisture, Metals, PCBs & Benzo
DT-2-120-0-2-062316 MS	1	6/23/2016 15:37	Moisture, Metals, PCBs & Benzo
DT-2-120-0-2-062316 MSD	1	6/23/2016 15:37	Moisture, Metals, PCBs & Benzo
DT-2-120-0-3-062316	1	6/23/2016 15:45	Moisture, Metals, PCBs & Benzo
DT-3-40-0-2-062316	5	6/23/2016 15:52	Moisture, Metals, PCBs, Benzo & PCE
DT-3-40-2-4-062316	1	6/23/2016 16:09	Moisture, Metals & PCBs
Trip Blanks	2	6/23/2016 16:09	Sodium Bisulfate

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
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eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 151668

Group Number(s): 1676230

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	06/25/2016 9:30
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	NaH2SO4
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Karen Diem (3060) at 10:36 on 06/25/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.1	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Report Date: May 02, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 04/13/2016
Group Number: 1650191
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
MW-3-041116 Grab Groundwater	8331474
MW-2-041116 Grab Groundwater	8331475
MW-2MS-041116 Grab Groundwater	8331476
MW-2MSD-041116 Grab Groundwater	8331477
MW-2DUP-041116 Grab Groundwater	8331478
MW-2-041116 Filtered Grab Groundwater	8331479
DUP-1-041116 Grab Groundwater	8331480
EB-1-041116 Grab Water	8331481
MW-4-041116 Grab Groundwater	8331482
MW-1-041116 Grab Groundwater	8331483
TB-16088 Water	8331484

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	Amec Foster Wheeler	Attn: Ferdinand Mayila
Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1650191

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8331474, 8331475, 8331480, 8331481, 8331482, 8331483, 8331484

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Batch #: Y161111AA (Sample number(s): 8331474-8331477, 8331480-8331484 UNSPK: 8331475)

The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: Trichlorofluoromethane

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl Chloride, Chloroethane, Trichlorofluoromethane, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Chloroform, Carbon Tetrachloride

SW-846 8270D, GC/MS Semivolatiles

Batch #: 16106WAD026 (Sample number(s): 8331474-8331477, 8331480-8331483 UNSPK: 8331475)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2,4-Dimethylphenol

SW-846 8270D SIM, GC/MS Semivolatiles

Sample #s: 8331474

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:
Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, and Dbenz(a,h)anthracene were detected in the re-extracted sample.

Batch #: 16106WAC026 (Sample number(s): 8331474-8331477, 8331480-8331483 UNSPK: 8331475)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(a)pyrene, Benzo(g,h,i)perylene

SW-846 6020A, Metals

Batch #: 161090639006A (Sample number(s): 8331474-8331478, 8331480-8331483 UNSPK: 8331475 BKG: 8331475)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Manganese

SW-846 6020A, Metals Dissolved

Batch #: 161130639004A (Sample number(s): 8331479 UNSPK: 8331479 BKG: 8331479)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Manganese

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Antimony, Vanadium

Batch #: 161130639004D (Sample number(s): 8331479 UNSPK: 8331479 BKG: 8331479)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Barium

Sample Description: MW-3-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331474
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 15:18 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW3

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	< 1	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	< 1	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	12	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	< 1	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles SW-846 8270D **ug/l** **ug/l** **ug/l**

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331474
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 15:18 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW3

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	< 1	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	< 5	5	2	1
10461	Di-n-butylphthalate	84-74-2	< 5	5	2	1
10461	4-Chloroaniline	106-47-8	< 4	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	< 1	1	0.5	1
10461	2-Chlorophenol	95-57-8	< 1	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	< 5	5	2	1
10461	2,4-Dichlorophenol	120-83-2	< 1	1	0.5	1
10461	Diethylphthalate	84-66-2	< 5	5	2	1
10461	2,4-Dimethylphenol	105-67-9	< 1	1	0.5	1
10461	Dimethylphthalate	131-11-3	< 5	5	2	1
10461	2,4-Dinitrophenol	51-28-5	< 31	31	10	1
10461	2,4-Dinitrotoluene	121-14-2	< 5	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	2	1
10461	Hexachlorobenzene	118-74-1	< 0.5	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	< 1	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	< 16	16	5	1
10461	Hexachloroethane	67-72-1	< 5	5	1	1
10461	Isophorone	78-59-1	< 1	1	0.5	1
10461	4-Methylphenol	106-44-5	< 1	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	< 1	1	0.5	1
10461	2-Nitrophenol	88-75-5	< 1	1	0.5	1
10461	4-Nitrophenol	100-02-7	< 31	31	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	< 1	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	< 5	5	2	1
10461	Pentachlorophenol	87-86-5	< 5	5	1	1
10461	Phenol	108-95-2	< 1	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	< 1	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	< 0.052	0.052	0.010	1
12971	Acenaphthylene	208-96-8	< 0.052	0.052	0.010	1
12971	Anthracene	120-12-7	< 0.052	0.052	0.010	1
12971	Benzo(a)anthracene	56-55-3	< 0.052	0.052	0.010	1
12971	Benzo(a)pyrene	50-32-8	< 0.052	0.052	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	< 0.052	0.052	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	< 0.052	0.052	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	< 0.052	0.052	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331474
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 15:18 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW3

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Chrysene	218-01-9	< 0.052	0.052	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	< 0.052	0.052	0.010	1
12971	Fluoranthene	206-44-0	< 0.052	0.052	0.010	1
12971	Fluorene	86-73-7	< 0.052	0.052	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.052	0.052	0.010	1
12971	2-Methylnaphthalene	91-57-6	< 0.052	0.052	0.010	1
12971	Naphthalene	91-20-3	< 0.063	0.063	0.031	1
12971	Phenanthrene	85-01-8	< 0.063	0.063	0.031	1
12971	Pyrene	129-00-0	< 0.052	0.052	0.010	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:
Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, and Dbenz(a,h)anthracene were detected in the re-extracted sample.

Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	1,3-Dinitrobenzene	99-65-0	< 0.60	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	< 0.60	0.60	0.20	1
13395	Nitrobenzene	98-95-3	< 0.60	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	< 0.60	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	< 0.60	0.60	0.20	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.41	0.41	0.082	1
10591	PCB-1221	11104-28-2	< 0.41	0.41	0.082	1
10591	PCB-1232	11141-16-5	< 0.41	0.41	0.16	1
10591	PCB-1242	53469-21-9	< 0.41	0.41	0.082	1
10591	PCB-1248	12672-29-6	< 0.41	0.41	0.082	1
10591	PCB-1254	11097-69-1	< 0.41	0.41	0.082	1
10591	PCB-1260	11096-82-5	< 0.41	0.41	0.12	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	**mg/l**	
08278	Ethylene glycol	107-21-1	< 10	10	5.0	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	0.0873	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06032	Cobalt	7440-48-4	< 0.0010	0.0010	0.00010	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-3-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331474
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 15:18 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW3

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	< 0.0020	0.0020	0.00013	1
06037	Manganese	7439-96-5	0.0095	0.0040	0.00094	1
06039	Nickel	7440-02-0	< 0.0040	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	< 0.0010	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.0589	0.0300	0.0074	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016 14:04	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016 14:04	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/18/2016 23:03	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/22/2016 22:34	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016 17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016 17:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/20/2016 06:53	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016 20:16	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016 16:40	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/18/2016 15:00	Wanda F Oswald	1
08278	Glycols in Water	SW-846 8015B modified	1	161120099A	04/22/2016 03:32	Tyler O Griffin	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016 06:35	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016 06:35	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016 06:35	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016 06:35	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016 06:35	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016 06:35	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016 06:35	Choon Y Tian	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-3-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331474
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 15:18 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW3

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:35	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:35	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161180639001A	04/28/2016	07:28	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:35	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:35	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:35	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:35	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:35	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:35	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:13	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016	17:20	Barbara A Kane	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	2	161180639001	04/27/2016	22:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016	01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331475
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	< 1	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	7	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	4	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	< 1	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles SW-846 8270D **ug/l** **ug/l** **ug/l**

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331475
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	< 1	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	< 5	5	2	1
10461	Di-n-butylphthalate	84-74-2	< 5	5	2	1
10461	4-Chloroaniline	106-47-8	< 4	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	< 1	1	0.5	1
10461	2-Chlorophenol	95-57-8	< 1	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	< 5	5	2	1
10461	2,4-Dichlorophenol	120-83-2	< 1	1	0.5	1
10461	Diethylphthalate	84-66-2	< 5	5	2	1
10461	2,4-Dimethylphenol	105-67-9	< 1	1	0.5	1
10461	Dimethylphthalate	131-11-3	< 5	5	2	1
10461	2,4-Dinitrophenol	51-28-5	< 31	31	10	1
10461	2,4-Dinitrotoluene	121-14-2	< 5	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	2	1
10461	Hexachlorobenzene	118-74-1	< 0.5	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	< 1	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	< 15	15	5	1
10461	Hexachloroethane	67-72-1	< 5	5	1	1
10461	Isophorone	78-59-1	< 1	1	0.5	1
10461	4-Methylphenol	106-44-5	< 1	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	< 1	1	0.5	1
10461	2-Nitrophenol	88-75-5	< 1	1	0.5	1
10461	4-Nitrophenol	100-02-7	< 31	31	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	< 1	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	< 5	5	2	1
10461	Pentachlorophenol	87-86-5	< 5	5	1	1
10461	Phenol	108-95-2	< 1	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	< 1	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	< 0.051	0.051	0.010	1
12971	Acenaphthylene	208-96-8	< 0.051	0.051	0.010	1
12971	Anthracene	120-12-7	< 0.051	0.051	0.010	1
12971	Benzo(a)anthracene	56-55-3	< 0.051	0.051	0.010	1
12971	Benzo(a)pyrene	50-32-8	< 0.051	0.051	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	< 0.051	0.051	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	< 0.051	0.051	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	< 0.051	0.051	0.010	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331475
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Chrysene	218-01-9	< 0.051	0.051	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	< 0.051	0.051	0.010	1
12971	Fluoranthene	206-44-0	< 0.051	0.051	0.010	1
12971	Fluorene	86-73-7	< 0.051	0.051	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.051	0.051	0.010	1
12971	2-Methylnaphthalene	91-57-6	< 0.051	0.051	0.010	1
12971	Naphthalene	91-20-3	< 0.061	0.061	0.031	1
12971	Phenanthrene	85-01-8	< 0.061	0.061	0.031	1
12971	Pyrene	129-00-0	< 0.051	0.051	0.010	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	1,3-Dinitrobenzene	99-65-0	< 0.60	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	< 0.60	0.60	0.20	1
13395	Nitrobenzene	98-95-3	< 0.60	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	< 0.60	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	< 0.60	0.60	0.20	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.43	0.43	0.086	1
10591	PCB-1221	11104-28-2	< 0.43	0.43	0.086	1
10591	PCB-1232	11141-16-5	< 0.43	0.43	0.17	1
10591	PCB-1242	53469-21-9	< 0.43	0.43	0.086	1
10591	PCB-1248	12672-29-6	< 0.43	0.43	0.086	1
10591	PCB-1254	11097-69-1	< 0.43	0.43	0.086	1
10591	PCB-1260	11096-82-5	< 0.43	0.43	0.13	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	**mg/l**	
08278	Ethylene glycol	107-21-1	< 10	10	5.0	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	0.129	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.0164	0.0010	0.00010	1
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	0.0034	0.0020	0.00013	1
06037	Manganese	7439-96-5	1.98	0.0200	0.0047	5
06039	Nickel	7440-02-0	0.0062	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	0.0034	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.144	0.0300	0.0074	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331475
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Metals		**SW-846 7470A**	**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016	14:26	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016	14:26	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/18/2016	23:32	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/22/2016	21:13	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016	17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016	17:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/20/2016	08:43	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016	20:28	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016	16:40	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/18/2016	15:00	Wanda F Oswald	1
08278	Glycols in Water	SW-846 8015B modified	1	161120099A	04/22/2016	04:26	Tyler O Griffin	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016	06:17	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161090639006A	04/25/2016	12:13	Patrick J Engle	5
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:17	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:17	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:05	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331475
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016 17:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016 01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2MS-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331476
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	150	20	6	1
11997	Benzene	71-43-2	23	1	0.5	1
11997	Bromodichloromethane	75-27-4	21	1	0.5	1
11997	Bromoform	75-25-2	17	4	0.5	1
11997	Bromomethane	74-83-9	25	1	0.5	1
11997	2-Butanone	78-93-3	130	10	3	1
11997	Carbon Disulfide	75-15-0	22	5	1	1
11997	Carbon Tetrachloride	56-23-5	27	1	0.5	1
11997	Chlorobenzene	108-90-7	21	1	0.5	1
11997	Chloroethane	75-00-3	25	1	0.5	1
11997	Chloroform	67-66-3	24	1	0.5	1
11997	Chloromethane	74-87-3	23	1	0.5	1
11997	Cyclohexane	110-82-7	23	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	14	5	2	1
11997	Dibromochloromethane	124-48-1	20	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	20	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	20	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	20	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	20	5	1	1
11997	Dichlorodifluoromethane	75-71-8	23	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	23	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	24	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	25	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	31	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	25	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	22	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	19	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	19	1	0.5	1
11997	Ethylbenzene	100-41-4	22	1	0.5	1
11997	Freon 113	76-13-1	25	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	88	10	3	1
11997	Methylcyclohexane	108-87-2	24	5	1	1
11997	Methylene Chloride	75-09-2	24	4	2	1
11997	Styrene	100-42-5	21	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	16	1	0.5	1
11997	Tetrachloroethene	127-18-4	29	1	0.5	1
11997	Toluene	108-88-3	22	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	18	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	25	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	20	1	0.5	1
11997	Trichloroethene	79-01-6	24	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	30	1	0.5	1
11997	Vinyl Chloride	75-01-4	25	1	0.5	1
11997	Xylene (Total)	1330-20-7	66	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	47	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	49	5	2	1
10461	Di-n-butylphthalate	84-74-2	47	5	2	1
10461	4-Chloroaniline	106-47-8	45	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	49	1	0.5	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2MS-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331476
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	2-Chlorophenol	95-57-8	40	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	48	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	47	5	2	1
10461	2,4-Dichlorophenol	120-83-2	41	1	0.5	1
10461	Diethylphthalate	84-66-2	44	5	2	1
10461	2,4-Dimethylphenol	105-67-9	28	1	0.5	1
10461	Dimethylphthalate	131-11-3	42	5	2	1
10461	2,4-Dinitrophenol	51-28-5	87	31	10	1
10461	2,4-Dinitrotoluene	121-14-2	49	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	52	5	2	1
10461	Hexachlorobenzene	118-74-1	47	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	43	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	71	15	5	1
10461	Hexachloroethane	67-72-1	43	5	1	1
10461	Isophorone	78-59-1	51	1	0.5	1
10461	4-Methylphenol	106-44-5	26	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	50	1	0.5	1
10461	2-Nitrophenol	88-75-5	54	1	0.5	1
10461	4-Nitrophenol	100-02-7	38	31	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	50	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	49	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	48	5	2	1
10461	Pentachlorophenol	87-86-5	38	5	1	1
10461	Phenol	108-95-2	22	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	43	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	42	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	1.0	0.052	0.010	1
12971	Acenaphthylene	208-96-8	0.99	0.052	0.010	1
12971	Anthracene	120-12-7	0.97	0.052	0.010	1
12971	Benzo(a)anthracene	56-55-3	0.95	0.052	0.010	1
12971	Benzo(a)pyrene	50-32-8	0.63	0.052	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	0.87	0.052	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	0.58	0.052	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	0.84	0.052	0.010	1
12971	Chrysene	218-01-9	0.90	0.052	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	0.82	0.052	0.010	1
12971	Fluoranthene	206-44-0	0.88	0.052	0.010	1
12971	Fluorene	86-73-7	0.99	0.052	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	0.77	0.052	0.010	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2MS-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331476
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

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CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	2-Methylnaphthalene	91-57-6	0.95	0.052	0.010	1
12971	Naphthalene	91-20-3	0.91	0.063	0.031	1
12971	Phenanthrene	85-01-8	0.88	0.063	0.031	1
12971	Pyrene	129-00-0	0.86	0.052	0.010	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	1,3-Dinitrobenzene	99-65-0	11	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	11	0.60	0.20	1
13395	Nitrobenzene	98-95-3	11	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	9.7	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	9.5	0.60	0.20	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	4.4	0.42	0.084	1
10591	PCB-1221	11104-28-2	< 0.42	0.42	0.084	1
10591	PCB-1232	11141-16-5	< 0.42	0.42	0.17	1
10591	PCB-1242	53469-21-9	< 0.42	0.42	0.084	1
10591	PCB-1248	12672-29-6	< 0.42	0.42	0.084	1
10591	PCB-1254	11097-69-1	< 0.42	0.42	0.084	1
10591	PCB-1260	11096-82-5	4.3	0.42	0.13	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	**mg/l**	
08278	Ethylene glycol	107-21-1	220	10	5.0	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	0.0063	0.0020	0.00033	1
06025	Arsenic	7440-38-2	0.0109	0.0040	0.00054	1
06026	Barium	7440-39-3	0.173	0.0040	0.00092	1
06027	Beryllium	7440-41-7	0.0041	0.0010	0.000071	1
06028	Cadmium	7440-43-9	0.0053	0.0010	0.00020	1
06031	Chromium	7440-47-3	0.0489	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.280	0.0010	0.00010	1
06033	Copper	7440-50-8	0.0557	0.0040	0.00040	1
06035	Lead	7439-92-1	0.0164	0.0020	0.00013	1
06037	Manganese	7439-96-5	1.69	0.0040	0.00094	1
06039	Nickel	7440-02-0	0.0589	0.0040	0.00094	1
06041	Selenium	7782-49-2	0.0105	0.0040	0.00050	1
06042	Silver	7440-22-4	0.0523	0.0010	0.00011	1
06045	Thallium	7440-28-0	0.0022	0.0010	0.00015	1
06048	Vanadium	7440-62-2	0.0482	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.641	0.0300	0.0074	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00099	0.00020	0.000050	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2MS-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331476
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016	13:20	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016	13:20	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/19/2016	00:01	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/22/2016	21:40	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016	17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016	17:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/20/2016	09:20	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016	20:39	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016	16:40	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/18/2016	15:00	Wanda F Oswald	1
08278	Glycols in Water	SW-846 8015B modified	1	161120099A	04/22/2016	04:44	Tyler O Griffin	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016	06:26	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161090639006A	04/25/2016	12:07	Patrick J Engle	1
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:26	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:26	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:09	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016	17:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016	01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2MSD-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331477
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	140	20	6	1
11997	Benzene	71-43-2	23	1	0.5	1
11997	Bromodichloromethane	75-27-4	22	1	0.5	1
11997	Bromoform	75-25-2	17	4	0.5	1
11997	Bromomethane	74-83-9	26	1	0.5	1
11997	2-Butanone	78-93-3	130	10	3	1
11997	Carbon Disulfide	75-15-0	22	5	1	1
11997	Carbon Tetrachloride	56-23-5	27	1	0.5	1
11997	Chlorobenzene	108-90-7	21	1	0.5	1
11997	Chloroethane	75-00-3	26	1	0.5	1
11997	Chloroform	67-66-3	24	1	0.5	1
11997	Chloromethane	74-87-3	23	1	0.5	1
11997	Cyclohexane	110-82-7	23	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	14	5	2	1
11997	Dibromochloromethane	124-48-1	20	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	20	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	20	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	20	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	20	5	1	1
11997	Dichlorodifluoromethane	75-71-8	23	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	23	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	23	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	25	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	32	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	25	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	22	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	20	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	20	1	0.5	1
11997	Ethylbenzene	100-41-4	22	1	0.5	1
11997	Freon 113	76-13-1	25	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	88	10	3	1
11997	Methylcyclohexane	108-87-2	24	5	1	1
11997	Methylene Chloride	75-09-2	23	4	2	1
11997	Styrene	100-42-5	21	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	16	1	0.5	1
11997	Tetrachloroethene	127-18-4	29	1	0.5	1
11997	Toluene	108-88-3	22	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	18	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	25	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	20	1	0.5	1
11997	Trichloroethene	79-01-6	24	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	31	1	0.5	1
11997	Vinyl Chloride	75-01-4	25	1	0.5	1
11997	Xylene (Total)	1330-20-7	66	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	47	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	48	5	2	1
10461	Di-n-butylphthalate	84-74-2	48	5	2	1
10461	4-Chloroaniline	106-47-8	45	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	48	1	0.5	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2MSD-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331477
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	2-Chlorophenol	95-57-8	38	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	47	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	47	5	2	1
10461	2,4-Dichlorophenol	120-83-2	39	1	0.5	1
10461	Diethylphthalate	84-66-2	45	5	2	1
10461	2,4-Dimethylphenol	105-67-9	29	1	0.5	1
10461	Dimethylphthalate	131-11-3	42	5	2	1
10461	2,4-Dinitrophenol	51-28-5	86	30	10	1
10461	2,4-Dinitrotoluene	121-14-2	49	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	51	5	2	1
10461	Hexachlorobenzene	118-74-1	47	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	44	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	68	15	5	1
10461	Hexachloroethane	67-72-1	43	5	1	1
10461	Isophorone	78-59-1	51	1	0.5	1
10461	4-Methylphenol	106-44-5	24	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	49	1	0.5	1
10461	2-Nitrophenol	88-75-5	55	1	0.5	1
10461	4-Nitrophenol	100-02-7	37	30	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	49	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	49	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	48	5	2	1
10461	Pentachlorophenol	87-86-5	38	5	1	1
10461	Phenol	108-95-2	20	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	42	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	43	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	0.99	0.051	0.010	1
12971	Acenaphthylene	208-96-8	0.95	0.051	0.010	1
12971	Anthracene	120-12-7	0.96	0.051	0.010	1
12971	Benzo(a)anthracene	56-55-3	0.92	0.051	0.010	1
12971	Benzo(a)pyrene	50-32-8	0.59	0.051	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	0.79	0.051	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	0.51	0.051	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	0.74	0.051	0.010	1
12971	Chrysene	218-01-9	0.87	0.051	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	0.68	0.051	0.010	1
12971	Fluoranthene	206-44-0	0.88	0.051	0.010	1
12971	Fluorene	86-73-7	0.96	0.051	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	0.63	0.051	0.010	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2MSD-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331477
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	2-Methylnaphthalene	91-57-6	0.96	0.051	0.010	1
12971	Naphthalene	91-20-3	0.92	0.062	0.031	1
12971	Phenanthrene	85-01-8	0.96	0.062	0.031	1
12971	Pyrene	129-00-0	0.90	0.051	0.010	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	1,3-Dinitrobenzene	99-65-0	11	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	10	0.60	0.20	1
13395	Nitrobenzene	98-95-3	11	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	9.3	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	9.1	0.60	0.20	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	4.2	0.42	0.083	1
10591	PCB-1221	11104-28-2	< 0.42	0.42	0.083	1
10591	PCB-1232	11141-16-5	< 0.42	0.42	0.17	1
10591	PCB-1242	53469-21-9	< 0.42	0.42	0.083	1
10591	PCB-1248	12672-29-6	< 0.42	0.42	0.083	1
10591	PCB-1254	11097-69-1	< 0.42	0.42	0.083	1
10591	PCB-1260	11096-82-5	3.9	0.42	0.13	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	**mg/l**	
08278	Ethylene glycol	107-21-1	220	10	5.0	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	0.0060	0.0020	0.00033	1
06025	Arsenic	7440-38-2	0.0102	0.0040	0.00054	1
06026	Barium	7440-39-3	0.170	0.0040	0.00092	1
06027	Beryllium	7440-41-7	0.0040	0.0010	0.000071	1
06028	Cadmium	7440-43-9	0.0050	0.0010	0.00020	1
06031	Chromium	7440-47-3	0.0467	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.258	0.0010	0.00010	1
06033	Copper	7440-50-8	0.0530	0.0040	0.00040	1
06035	Lead	7439-92-1	0.0156	0.0020	0.00013	1
06037	Manganese	7439-96-5	1.66	0.0040	0.00094	1
06039	Nickel	7440-02-0	0.0550	0.0040	0.00094	1
06041	Selenium	7782-49-2	0.0098	0.0040	0.00050	1
06042	Silver	7440-22-4	0.0494	0.0010	0.00011	1
06045	Thallium	7440-28-0	0.0020	0.0010	0.00015	1
06048	Vanadium	7440-62-2	0.0457	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.614	0.0300	0.0074	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.0010	0.00020	0.000050	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2MSD-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331477
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016	13:42	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016	13:42	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/19/2016	00:29	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/22/2016	22:07	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016	17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016	17:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/20/2016	09:57	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016	20:50	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016	16:40	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/18/2016	15:00	Wanda F Oswald	1
08278	Glycols in Water	SW-846 8015B modified	1	161120099A	04/22/2016	05:02	Tyler O Griffin	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016	06:29	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161090639006A	04/25/2016	12:09	Patrick J Engle	1
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:29	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:29	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:11	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016	17:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016	01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2DUP-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331478
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	0.132	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.0160	0.0010	0.00010	1
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	0.0034	0.0020	0.00013	1
06037	Manganese	7439-96-5	2.06	0.0200	0.0047	5
06039	Nickel	7440-02-0	0.0067	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	0.0036	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.145	0.0300	0.0074	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016 06:23	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161090639006A	04/25/2016 12:20	Patrick J Engle	5
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016 06:23	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016 06:23	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016 08:07	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2DUP-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331478
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW2

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016 17:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016 01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-041116 Filtered Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331479
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	0.133	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.0156	0.0010	0.00010	1
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	< 0.0020	0.0020	0.00013	1
06037	Manganese	7439-96-5	2.01	0.0200	0.0047	5
06039	Nickel	7440-02-0	0.0058	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	< 0.0010	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.155	0.0300	0.0074	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	161130639004D	04/27/2016 12:00	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	161130639004A	04/27/2016 15:16	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06037	Manganese	SW-846 6020A	1	161130639004A	04/27/2016 15:27	Scott P Cuff	5
06039	Nickel	SW-846 6020A	1	161130639004A	04/27/2016 15:16	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	161130639004B	04/27/2016 12:00	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	161130639004A	04/27/2016 12:00	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	161135713006	04/25/2016 06:21	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-2-041116 Filtered Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331479
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 16:10 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161130639004	04/24/2016 07:23	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161135713006	04/24/2016 09:58	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331480
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 12:00 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	< 1	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	7	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	4	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	< 1	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles SW-846 8270D **ug/l** **ug/l** **ug/l**

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331480
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 12:00 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	< 1	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	< 5	5	2	1
10461	Di-n-butylphthalate	84-74-2	< 5	5	2	1
10461	4-Chloroaniline	106-47-8	< 4	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	< 1	1	0.5	1
10461	2-Chlorophenol	95-57-8	< 1	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	< 5	5	2	1
10461	2,4-Dichlorophenol	120-83-2	< 1	1	0.5	1
10461	Diethylphthalate	84-66-2	< 5	5	2	1
10461	2,4-Dimethylphenol	105-67-9	< 1	1	0.5	1
10461	Dimethylphthalate	131-11-3	< 5	5	2	1
10461	2,4-Dinitrophenol	51-28-5	< 32	32	11	1
10461	2,4-Dinitrotoluene	121-14-2	< 5	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	2	1
10461	Hexachlorobenzene	118-74-1	< 0.5	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	< 1	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	< 16	16	5	1
10461	Hexachloroethane	67-72-1	< 5	5	1	1
10461	Isophorone	78-59-1	< 1	1	0.5	1
10461	4-Methylphenol	106-44-5	< 1	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	< 1	1	0.5	1
10461	2-Nitrophenol	88-75-5	< 1	1	0.5	1
10461	4-Nitrophenol	100-02-7	< 32	32	11	1
10461	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	< 1	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	< 5	5	2	1
10461	Pentachlorophenol	87-86-5	< 5	5	1	1
10461	Phenol	108-95-2	< 1	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	< 1	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	< 0.053	0.053	0.011	1
12971	Acenaphthylene	208-96-8	< 0.053	0.053	0.011	1
12971	Anthracene	120-12-7	< 0.053	0.053	0.011	1
12971	Benzo(a)anthracene	56-55-3	< 0.053	0.053	0.011	1
12971	Benzo(a)pyrene	50-32-8	< 0.053	0.053	0.011	1
12971	Benzo(b)fluoranthene	205-99-2	< 0.053	0.053	0.011	1
12971	Benzo(g,h,i)perylene	191-24-2	< 0.053	0.053	0.011	1
12971	Benzo(k)fluoranthene	207-08-9	< 0.053	0.053	0.011	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331480
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 12:00 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Chrysene	218-01-9	< 0.053	0.053	0.011	1
12971	Dibenz(a,h)anthracene	53-70-3	< 0.053	0.053	0.011	1
12971	Fluoranthene	206-44-0	< 0.053	0.053	0.011	1
12971	Fluorene	86-73-7	< 0.053	0.053	0.011	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.053	0.053	0.011	1
12971	2-Methylnaphthalene	91-57-6	< 0.053	0.053	0.011	1
12971	Naphthalene	91-20-3	< 0.063	0.063	0.032	1
12971	Phenanthrene	85-01-8	< 0.063	0.063	0.032	1
12971	Pyrene	129-00-0	< 0.053	0.053	0.011	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	1,3-Dinitrobenzene	99-65-0	< 0.60	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	< 0.60	0.60	0.20	1
13395	Nitrobenzene	98-95-3	< 0.60	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	< 0.60	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	< 0.60	0.60	0.20	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.41	0.41	0.082	1
10591	PCB-1221	11104-28-2	< 0.41	0.41	0.082	1
10591	PCB-1232	11141-16-5	< 0.41	0.41	0.16	1
10591	PCB-1242	53469-21-9	< 0.41	0.41	0.082	1
10591	PCB-1248	12672-29-6	< 0.41	0.41	0.082	1
10591	PCB-1254	11097-69-1	< 0.41	0.41	0.082	1
10591	PCB-1260	11096-82-5	< 0.41	0.41	0.12	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	**mg/l**	
08278	Ethylene glycol	107-21-1	< 10	10	5.0	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	0.115	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.0130	0.0010	0.00010	1
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	< 0.0020	0.0020	0.00013	1
06037	Manganese	7439-96-5	1.59	0.0040	0.00094	1
06039	Nickel	7440-02-0	0.0046	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	< 0.0010	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.122	0.0300	0.0074	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DUP-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331480
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 12:00 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Metals	**SW-846 7470A**		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016	14:48	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016	14:48	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/19/2016	00:58	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/22/2016	23:01	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016	17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016	17:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/20/2016	10:34	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016	21:02	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016	16:40	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/18/2016	15:00	Wanda F Oswald	1
08278	Glycols in Water	SW-846 8015B modified	1	161120099A	04/22/2016	03:50	Tyler O Griffin	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016	06:47	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161090639006A	04/25/2016	12:29	Patrick J Engle	1
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:47	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:47	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:15	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: DUP-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331480
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 12:00 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPDU1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016 17:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016 01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-1-041116 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8331481
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 13:54 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPEB1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	2	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	< 1	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	< 1	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	< 1	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles SW-846 8270D **ug/l** **ug/l** **ug/l**

*=This limit was used in the evaluation of the final result

Sample Description: EB-1-041116 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8331481
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 13:54 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPEB1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	< 1	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	< 5	5	2	1
10461	Di-n-butylphthalate	84-74-2	< 5	5	2	1
10461	4-Chloroaniline	106-47-8	< 4	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	< 1	1	0.5	1
10461	2-Chlorophenol	95-57-8	< 1	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	< 5	5	2	1
10461	2,4-Dichlorophenol	120-83-2	< 1	1	0.5	1
10461	Diethylphthalate	84-66-2	< 5	5	2	1
10461	2,4-Dimethylphenol	105-67-9	< 1	1	0.5	1
10461	Dimethylphthalate	131-11-3	< 5	5	2	1
10461	2,4-Dinitrophenol	51-28-5	< 31	31	10	1
10461	2,4-Dinitrotoluene	121-14-2	< 5	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	2	1
10461	Hexachlorobenzene	118-74-1	< 0.5	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	< 1	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	< 16	16	5	1
10461	Hexachloroethane	67-72-1	< 5	5	1	1
10461	Isophorone	78-59-1	< 1	1	0.5	1
10461	4-Methylphenol	106-44-5	< 1	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	< 1	1	0.5	1
10461	2-Nitrophenol	88-75-5	< 1	1	0.5	1
10461	4-Nitrophenol	100-02-7	< 31	31	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	< 1	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	< 5	5	2	1
10461	Pentachlorophenol	87-86-5	< 5	5	1	1
10461	Phenol	108-95-2	< 1	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	< 1	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	< 0.052	0.052	0.010	1
12971	Acenaphthylene	208-96-8	< 0.052	0.052	0.010	1
12971	Anthracene	120-12-7	< 0.052	0.052	0.010	1
12971	Benzo(a)anthracene	56-55-3	< 0.052	0.052	0.010	1
12971	Benzo(a)pyrene	50-32-8	< 0.052	0.052	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	< 0.052	0.052	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	< 0.052	0.052	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	< 0.052	0.052	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-1-041116 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8331481
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 13:54 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPEB1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Chrysene	218-01-9	< 0.052	0.052	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	< 0.052	0.052	0.010	1
12971	Fluoranthene	206-44-0	< 0.052	0.052	0.010	1
12971	Fluorene	86-73-7	< 0.052	0.052	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.052	0.052	0.010	1
12971	2-Methylnaphthalene	91-57-6	< 0.052	0.052	0.010	1
12971	Naphthalene	91-20-3	< 0.062	0.062	0.031	1
12971	Phenanthrene	85-01-8	< 0.062	0.062	0.031	1
12971	Pyrene	129-00-0	< 0.052	0.052	0.010	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	1,3-Dinitrobenzene	99-65-0	< 0.60	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	< 0.60	0.60	0.20	1
13395	Nitrobenzene	98-95-3	< 0.60	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	< 0.60	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	< 0.60	0.60	0.20	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.43	0.43	0.087	1
10591	PCB-1221	11104-28-2	< 0.43	0.43	0.087	1
10591	PCB-1232	11141-16-5	< 0.43	0.43	0.17	1
10591	PCB-1242	53469-21-9	< 0.43	0.43	0.087	1
10591	PCB-1248	12672-29-6	< 0.43	0.43	0.087	1
10591	PCB-1254	11097-69-1	< 0.43	0.43	0.087	1
10591	PCB-1260	11096-82-5	< 0.43	0.43	0.13	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	**mg/l**	
08278	Ethylene glycol	107-21-1	< 10	10	5.0	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	< 0.0040	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06032	Cobalt	7440-48-4	< 0.0010	0.0010	0.00010	1
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	< 0.0020	0.0020	0.00013	1
06037	Manganese	7439-96-5	< 0.0040	0.0040	0.00094	1
06039	Nickel	7440-02-0	< 0.0040	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	< 0.0010	0.0010	0.00022	1
06049	Zinc	7440-66-6	< 0.0300	0.0300	0.0074	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-1-041116 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8331481
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 13:54 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPEB1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Metals	**SW-846 7470A**		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016	11:51	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016	11:51	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/19/2016	01:28	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/22/2016	23:28	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016	17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016	17:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/20/2016	11:10	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016	21:36	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016	16:40	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/18/2016	15:00	Wanda F Oswald	1
08278	Glycols in Water	SW-846 8015B modified	1	161120099A	04/22/2016	04:08	Tyler O Griffin	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016	06:38	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161180639001A	04/28/2016	07:30	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:38	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:38	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:17	Damary Valentin	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: EB-1-041116 Grab Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8331481
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 13:54 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPEB1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016 17:20	Barbara A Kane	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	2	161180639001	04/27/2016 22:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016 01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-4-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331482
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 17:58 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW4

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	< 1	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	28	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	4	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	2	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles SW-846 8270D **ug/l** **ug/l** **ug/l**

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331482
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 17:58 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW4

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	< 1	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	< 5	5	2	1
10461	Di-n-butylphthalate	84-74-2	< 5	5	2	1
10461	4-Chloroaniline	106-47-8	< 4	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	< 1	1	0.5	1
10461	2-Chlorophenol	95-57-8	< 1	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	< 5	5	2	1
10461	2,4-Dichlorophenol	120-83-2	< 1	1	0.5	1
10461	Diethylphthalate	84-66-2	< 5	5	2	1
10461	2,4-Dimethylphenol	105-67-9	< 1	1	0.5	1
10461	Dimethylphthalate	131-11-3	< 5	5	2	1
10461	2,4-Dinitrophenol	51-28-5	< 30	30	10	1
10461	2,4-Dinitrotoluene	121-14-2	< 5	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	2	1
10461	Hexachlorobenzene	118-74-1	< 0.5	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	< 1	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	< 15	15	5	1
10461	Hexachloroethane	67-72-1	< 5	5	1	1
10461	Isophorone	78-59-1	< 1	1	0.5	1
10461	4-Methylphenol	106-44-5	< 1	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	< 1	1	0.5	1
10461	2-Nitrophenol	88-75-5	< 1	1	0.5	1
10461	4-Nitrophenol	100-02-7	< 30	30	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	< 1	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	< 5	5	2	1
10461	Pentachlorophenol	87-86-5	< 5	5	1	1
10461	Phenol	108-95-2	< 1	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	< 1	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	< 0.051	0.051	0.010	1
12971	Acenaphthylene	208-96-8	< 0.051	0.051	0.010	1
12971	Anthracene	120-12-7	< 0.051	0.051	0.010	1
12971	Benzo(a)anthracene	56-55-3	< 0.051	0.051	0.010	1
12971	Benzo(a)pyrene	50-32-8	< 0.051	0.051	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	< 0.051	0.051	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	< 0.051	0.051	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	< 0.051	0.051	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331482
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 17:58 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW4

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Chrysene	218-01-9	< 0.051	0.051	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	< 0.051	0.051	0.010	1
12971	Fluoranthene	206-44-0	< 0.051	0.051	0.010	1
12971	Fluorene	86-73-7	< 0.051	0.051	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.051	0.051	0.010	1
12971	2-Methylnaphthalene	91-57-6	< 0.051	0.051	0.010	1
12971	Naphthalene	91-20-3	< 0.061	0.061	0.030	1
12971	Phenanthrene	85-01-8	< 0.061	0.061	0.030	1
12971	Pyrene	129-00-0	< 0.051	0.051	0.010	1
Explosives	**SW-846 8330B Rev.2 Oct. 2006**		**ug/l**	**ug/l**	**ug/l**	
13395	1,3-Dinitrobenzene	99-65-0	< 0.60	0.60	0.20	1
13395	2,4-Dinitrotoluene	121-14-2	< 0.60	0.60	0.20	1
13395	Nitrobenzene	98-95-3	< 0.60	0.60	0.20	1
13395	4-Nitrotoluene	99-99-0	< 0.60	0.60	0.20	1
13395	1,3,5-Trinitrobenzene	99-35-4	< 0.60	0.60	0.20	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.43	0.43	0.086	1
10591	PCB-1221	11104-28-2	< 0.43	0.43	0.086	1
10591	PCB-1232	11141-16-5	< 0.43	0.43	0.17	1
10591	PCB-1242	53469-21-9	< 0.43	0.43	0.086	1
10591	PCB-1248	12672-29-6	< 0.43	0.43	0.086	1
10591	PCB-1254	11097-69-1	< 0.43	0.43	0.086	1
10591	PCB-1260	11096-82-5	< 0.43	0.43	0.13	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	0.0690	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	< 0.0040	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.0018	0.0010	0.00010	1
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	< 0.0020	0.0020	0.00013	1
06037	Manganese	7439-96-5	0.0300	0.0040	0.00094	1
06039	Nickel	7440-02-0	< 0.0040	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	0.0039	0.0010	0.00022	1
06049	Zinc	7440-66-6	0.0898	0.0300	0.0074	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

*=This limit was used in the evaluation of the final result

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Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-4-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331482
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 17:58 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW4

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016	15:10	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016	15:10	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/19/2016	01:57	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/22/2016	23:55	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016	17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016	17:00	Ryan A Schafran	1
13395	Nitroaromatics/Amines 8330B(w)	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/20/2016	13:01	Jessica L Miller	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016	21:47	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016	16:40	JoElla L Rice	1
13432	Nitroaromatic/Amine Ext 8330B	SW-846 8330B Rev.2 Oct. 2006	1	161070016A	04/18/2016	15:00	Wanda F Oswald	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016	06:50	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161090639006A	04/25/2016	12:33	Patrick J Engle	1
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:50	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:50	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:19	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016	17:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016	01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331483
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 19:55 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	< 1	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	< 1	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	15	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	< 1	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles SW-846 8270D **ug/l** **ug/l** **ug/l**

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331483
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 19:55 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
10461	Acetophenone	98-86-2	< 1	1	0.5	1
10461	Butylbenzylphthalate	85-68-7	< 5	5	2	1
10461	Di-n-butylphthalate	84-74-2	< 5	5	2	1
10461	4-Chloroaniline	106-47-8	< 4	4	2	1
10461	bis(2-Chloroethyl)ether	111-44-4	< 1	1	0.5	1
10461	2-Chlorophenol	95-57-8	< 1	1	0.5	1
10461	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10461	3,3'-Dichlorobenzidine	91-94-1	< 5	5	2	1
10461	2,4-Dichlorophenol	120-83-2	< 1	1	0.5	1
10461	Diethylphthalate	84-66-2	< 5	5	2	1
10461	2,4-Dimethylphenol	105-67-9	< 1	1	0.5	1
10461	Dimethylphthalate	131-11-3	< 5	5	2	1
10461	2,4-Dinitrophenol	51-28-5	< 31	31	10	1
10461	2,4-Dinitrotoluene	121-14-2	< 5	5	1	1
10461	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	2	1
10461	Hexachlorobenzene	118-74-1	< 0.5	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	< 1	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	< 15	15	5	1
10461	Hexachloroethane	67-72-1	< 5	5	1	1
10461	Isophorone	78-59-1	< 1	1	0.5	1
10461	4-Methylphenol	106-44-5	< 1	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10461	Nitrobenzene	98-95-3	< 1	1	0.5	1
10461	2-Nitrophenol	88-75-5	< 1	1	0.5	1
10461	4-Nitrophenol	100-02-7	< 31	31	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	< 1	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10461	Di-n-octylphthalate	117-84-0	< 5	5	2	1
10461	Pentachlorophenol	87-86-5	< 5	5	1	1
10461	Phenol	108-95-2	< 1	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	< 1	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Acenaphthene	83-32-9	< 0.052	0.052	0.010	1
12971	Acenaphthylene	208-96-8	< 0.052	0.052	0.010	1
12971	Anthracene	120-12-7	< 0.052	0.052	0.010	1
12971	Benzo(a)anthracene	56-55-3	< 0.052	0.052	0.010	1
12971	Benzo(a)pyrene	50-32-8	< 0.052	0.052	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	< 0.052	0.052	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	< 0.052	0.052	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	< 0.052	0.052	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331483
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 19:55 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**ug/l**	**ug/l**	**ug/l**	
12971	Chrysene	218-01-9	< 0.052	0.052	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	< 0.052	0.052	0.010	1
12971	Fluoranthene	206-44-0	< 0.052	0.052	0.010	1
12971	Fluorene	86-73-7	< 0.052	0.052	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.052	0.052	0.010	1
12971	2-Methylnaphthalene	91-57-6	< 0.052	0.052	0.010	1
12971	Naphthalene	91-20-3	< 0.062	0.062	0.031	1
12971	Phenanthrene	85-01-8	< 0.062	0.062	0.031	1
12971	Pyrene	129-00-0	< 0.052	0.052	0.010	1
Pesticides/PCBs	**SW-846 8082A**		**ug/l**	**ug/l**	**ug/l**	
10591	PCB-1016	12674-11-2	< 0.40	0.40	0.081	1
10591	PCB-1221	11104-28-2	< 0.40	0.40	0.081	1
10591	PCB-1232	11141-16-5	< 0.40	0.40	0.16	1
10591	PCB-1242	53469-21-9	< 0.40	0.40	0.081	1
10591	PCB-1248	12672-29-6	< 0.40	0.40	0.081	1
10591	PCB-1254	11097-69-1	< 0.40	0.40	0.081	1
10591	PCB-1260	11096-82-5	< 0.40	0.40	0.12	1
Metals	**SW-846 6020A**		**mg/l**	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0020	0.0020	0.00033	1
06025	Arsenic	7440-38-2	< 0.0040	0.0040	0.00054	1
06026	Barium	7440-39-3	0.0821	0.0040	0.00092	1
06027	Beryllium	7440-41-7	< 0.0010	0.0010	0.000071	1
06028	Cadmium	7440-43-9	< 0.0010	0.0010	0.00020	1
06031	Chromium	7440-47-3	0.0065	0.0040	0.00070	1
06032	Cobalt	7440-48-4	0.0018	0.0010	0.00010	1
06033	Copper	7440-50-8	< 0.0040	0.0040	0.00040	1
06035	Lead	7439-92-1	0.0031	0.0020	0.00013	1
06037	Manganese	7439-96-5	0.187	0.0040	0.00094	1
06039	Nickel	7440-02-0	< 0.0040	0.0040	0.00094	1
06041	Selenium	7782-49-2	< 0.0040	0.0040	0.00050	1
06042	Silver	7440-22-4	< 0.0010	0.0010	0.00011	1
06045	Thallium	7440-28-0	< 0.0010	0.0010	0.00015	1
06048	Vanadium	7440-62-2	0.0083	0.0010	0.00022	1
06049	Zinc	7440-66-6	< 0.0300	0.0300	0.0074	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-1-041116 Grab Groundwater
Former Cohn Property / Columbus, GA

LL Sample # WW 8331483
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016 19:55 by EG

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPMW1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016	15:32	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016	15:32	Brett W Kenyon	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	16106WAD026	04/19/2016	02:25	Ankitaben A Patel	1
12971	PAHs by 8270D SIM	SW-846 8270D SIM	1	16106WAC026	04/23/2016	00:22	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	16106WAC026	04/15/2016	17:00	Ryan A Schafran	1
11010	8270D BNA Extraction	SW-846 3510C	1	16106WAD026	04/15/2016	17:00	Ryan A Schafran	1
10591	PCBs in Water by 8082A	SW-846 8082A	1	161060016A	04/17/2016	21:59	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	161060016A	04/16/2016	16:40	JoElla L Rice	1
06024	Antimony	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06025	Arsenic	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06026	Barium	SW-846 6020A	1	161090639006D	04/25/2016	06:53	Choon Y Tian	1
06027	Beryllium	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06028	Cadmium	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06031	Chromium	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06032	Cobalt	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06033	Copper	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06035	Lead	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06037	Manganese	SW-846 6020A	1	161090639006A	04/25/2016	12:35	Patrick J Engle	1
06039	Nickel	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06041	Selenium	SW-846 6020A	1	161090639006B	04/25/2016	06:53	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06048	Vanadium	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
06049	Zinc	SW-846 6020A	1	161090639006A	04/25/2016	06:53	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	161095713004	04/20/2016	08:25	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	161090639006	04/19/2016	17:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161095713004	04/20/2016	01:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-16088 Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8331484
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPTB-

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11997	Acetone	67-64-1	< 20	20	6	1
11997	Benzene	71-43-2	< 1	1	0.5	1
11997	Bromodichloromethane	75-27-4	< 1	1	0.5	1
11997	Bromoform	75-25-2	< 4	4	0.5	1
11997	Bromomethane	74-83-9	< 1	1	0.5	1
11997	2-Butanone	78-93-3	< 10	10	3	1
11997	Carbon Disulfide	75-15-0	< 5	5	1	1
11997	Carbon Tetrachloride	56-23-5	< 1	1	0.5	1
11997	Chlorobenzene	108-90-7	< 1	1	0.5	1
11997	Chloroethane	75-00-3	< 1	1	0.5	1
11997	Chloroform	67-66-3	< 1	1	0.5	1
11997	Chloromethane	74-87-3	< 1	1	0.5	1
11997	Cyclohexane	110-82-7	< 5	5	2	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	< 5	5	2	1
11997	Dibromochloromethane	124-48-1	< 1	1	0.5	1
11997	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
11997	1,2-Dichlorobenzene	95-50-1	< 5	5	1	1
11997	1,3-Dichlorobenzene	541-73-1	< 5	5	1	1
11997	1,4-Dichlorobenzene	106-46-7	< 5	5	1	1
11997	Dichlorodifluoromethane	75-71-8	< 1	1	0.5	1
11997	1,1-Dichloroethane	75-34-3	< 1	1	0.5	1
11997	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
11997	1,1-Dichloroethene	75-35-4	< 1	1	0.5	1
11997	cis-1,2-Dichloroethene	156-59-2	< 1	1	0.5	1
11997	trans-1,2-Dichloroethene	156-60-5	< 1	1	0.5	1
11997	1,2-Dichloropropane	78-87-5	< 1	1	0.5	1
11997	cis-1,3-Dichloropropene	10061-01-5	< 1	1	0.5	1
11997	trans-1,3-Dichloropropene	10061-02-6	< 1	1	0.5	1
11997	Ethylbenzene	100-41-4	< 1	1	0.5	1
11997	Freon 113	76-13-1	< 10	10	2	1
11997	4-Methyl-2-pentanone	108-10-1	< 10	10	3	1
11997	Methylcyclohexane	108-87-2	< 5	5	1	1
11997	Methylene Chloride	75-09-2	< 4	4	2	1
11997	Styrene	100-42-5	< 5	5	1	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	0.5	1
11997	Tetrachloroethene	127-18-4	< 1	1	0.5	1
11997	Toluene	108-88-3	< 1	1	0.5	1
11997	1,2,4-Trichlorobenzene	120-82-1	< 5	5	1	1
11997	1,1,1-Trichloroethane	71-55-6	< 1	1	0.5	1
11997	1,1,2-Trichloroethane	79-00-5	< 1	1	0.5	1
11997	Trichloroethene	79-01-6	< 1	1	0.5	1
11997	Trichlorofluoromethane	75-69-4	< 1	1	0.5	1
11997	Vinyl Chloride	75-01-4	< 1	1	0.5	1
11997	Xylene (Total)	1330-20-7	< 1	1	0.5	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

*=This limit was used in the evaluation of the final result

Sample Description: TB-16088 Water
Former Cohn Property / Columbus, GA

LL Sample # WW 8331484
LL Group # 1650191
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 04/11/2016

Submitted: 04/13/2016 09:15
Reported: 05/02/2016 16:44

Norfolk Southern Railway Co.
1200 Peachtree Street, NE
Box 13
Atlanta GA 30309

CPTB-

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C	SW-846 8260C	1	Y161111AA	04/20/2016 12:13	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Y161111AA	04/20/2016 12:13	Brett W Kenyon	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 05/02/2016 16:44

Group Number: 1650191

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
Batch number: Y161111AA	Sample number(s): 8331474-8331477,8331480-8331484		
Acetone	< 20	20	6
Benzene	< 1	1	0.5
Bromodichloromethane	< 1	1	0.5
Bromoform	< 4	4	0.5
Bromomethane	< 1	1	0.5
2-Butanone	< 10	10	3
Carbon Disulfide	< 5	5	1
Carbon Tetrachloride	< 1	1	0.5
Chlorobenzene	< 1	1	0.5
Chloroethane	< 1	1	0.5
Chloroform	< 1	1	0.5
Chloromethane	< 1	1	0.5
Cyclohexane	< 5	5	2
1,2-Dibromo-3-chloropropane	< 5	5	2
Dibromochloromethane	< 1	1	0.5
1,2-Dibromoethane	< 1	1	0.5
1,2-Dichlorobenzene	< 5	5	1
1,3-Dichlorobenzene	< 5	5	1
1,4-Dichlorobenzene	< 5	5	1
Dichlorodifluoromethane	< 1	1	0.5
1,1-Dichloroethane	< 1	1	0.5
1,2-Dichloroethane	< 1	1	0.5
1,1-Dichloroethene	< 1	1	0.5
cis-1,2-Dichloroethene	< 1	1	0.5
trans-1,2-Dichloroethene	< 1	1	0.5
1,2-Dichloropropane	< 1	1	0.5
cis-1,3-Dichloropropene	< 1	1	0.5
trans-1,3-Dichloropropene	< 1	1	0.5
Ethylbenzene	< 1	1	0.5
Freon 113	< 10	10	2
4-Methyl-2-pentanone	< 10	10	3
Methylcyclohexane	< 5	5	1
Methylene Chloride	< 4	4	2
Styrene	< 5	5	1
1,1,2,2-Tetrachloroethane	< 1	1	0.5
Tetrachloroethene	< 1	1	0.5
Toluene	< 1	1	0.5
1,2,4-Trichlorobenzene	< 5	5	1
1,1,1-Trichloroethane	< 1	1	0.5
1,1,2-Trichloroethane	< 1	1	0.5
Trichloroethene	< 1	1	0.5
Trichlorofluoromethane	< 1	1	0.5
Vinyl Chloride	< 1	1	0.5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

Method Blank (continued)

Analysis Name	Result ug/l	LOQ** ug/l	MDL ug/l
Xylene (Total)	< 1	1	0.5
Batch number: 16106WAC026	Sample number(s): 8331474-8331477,8331480-8331483		
Acenaphthene	< 0.050	0.050	0.010
Acenaphthylene	< 0.050	0.050	0.010
Anthracene	< 0.050	0.050	0.010
Benzo(a)anthracene	< 0.050	0.050	0.010
Benzo(a)pyrene	< 0.050	0.050	0.010
Benzo(b)fluoranthene	< 0.050	0.050	0.010
Benzo(g,h,i)perylene	< 0.050	0.050	0.010
Benzo(k)fluoranthene	< 0.050	0.050	0.010
Chrysene	< 0.050	0.050	0.010
Dibenz(a,h)anthracene	< 0.050	0.050	0.010
Fluoranthene	< 0.050	0.050	0.010
Fluorene	< 0.050	0.050	0.010
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	0.010
2-Methylnaphthalene	< 0.050	0.050	0.010
Naphthalene	< 0.060	0.060	0.030
Phenanthrene	< 0.060	0.060	0.030
Pyrene	< 0.050	0.050	0.010
Batch number: 16106WAD026	Sample number(s): 8331474-8331477,8331480-8331483		
Acetophenone	< 1	1	0.5
Butylbenzylphthalate	< 5	5	2
Di-n-butylphthalate	< 5	5	2
4-Chloroaniline	< 4	4	2
bis(2-Chloroethyl)ether	< 1	1	0.5
2-Chlorophenol	< 1	1	0.5
2,2'-oxybis(1-Chloropropane)	< 1	1	0.5
3,3'-Dichlorobenzidine	< 5	5	2
2,4-Dichlorophenol	< 1	1	0.5
Diethylphthalate	< 5	5	2
2,4-Dimethylphenol	< 1	1	0.5
Dimethylphthalate	< 5	5	2
2,4-Dinitrophenol	< 30	30	10
2,4-Dinitrotoluene	< 5	5	1
bis(2-Ethylhexyl)phthalate	< 5	5	2
Hexachlorobenzene	< 0.5	0.5	0.1
Hexachlorobutadiene	< 1	1	0.5
Hexachlorocyclopentadiene	< 15	15	5
Hexachloroethane	< 5	5	1
Isophorone	< 1	1	0.5
4-Methylphenol	< 1	1	0.5
Nitrobenzene	< 1	1	0.5
2-Nitrophenol	< 1	1	0.5
4-Nitrophenol	< 30	30	10
N-Nitroso-di-n-propylamine	< 1	1	0.5
N-Nitrosodiphenylamine	< 1	1	0.5
Di-n-octylphthalate	< 5	5	2
Pentachlorophenol	< 5	5	1
Phenol	< 1	1	0.5
2,4,5-Trichlorophenol	< 1	1	0.5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

Method Blank (continued)

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
2,4,6-Trichlorophenol	< 1	1	0.5
Batch number: 161070016A	Sample number(s): 8331474-8331477,8331480-8331482		
1,3-Dinitrobenzene	< 0.60	0.60	0.20
2,4-Dinitrotoluene	< 0.60	0.60	0.20
Nitrobenzene	< 0.60	0.60	0.20
4-Nitrotoluene	< 0.60	0.60	0.20
1,3,5-Trinitrobenzene	< 0.60	0.60	0.20
Batch number: 161060016A	Sample number(s): 8331474-8331477,8331480-8331483		
PCB-1016	< 0.40	0.40	0.080
PCB-1221	< 0.40	0.40	0.080
PCB-1232	< 0.40	0.40	0.16
PCB-1242	< 0.40	0.40	0.080
PCB-1248	< 0.40	0.40	0.080
PCB-1254	< 0.40	0.40	0.080
PCB-1260	< 0.40	0.40	0.12
	mg/l	mg/l	mg/l
Batch number: 161120099A	Sample number(s): 8331474-8331477,8331480-8331481		
Ethylene glycol	< 10	10	5.0
Batch number: 161090639006A	Sample number(s): 8331474-8331478,8331480-8331483		
Antimony	< 0.0020	0.0020	0.00033
Arsenic	< 0.0040	0.0040	0.00054
Beryllium	< 0.0010	0.0010	0.000071
Cadmium	< 0.0010	0.0010	0.00020
Chromium	< 0.0040	0.0040	0.00070
Cobalt	< 0.0010	0.0010	0.00010
Copper	< 0.0040	0.0040	0.00040
Lead	< 0.0020	0.0020	0.00013
Manganese	< 0.0040	0.0040	0.00094
Nickel	< 0.0040	0.0040	0.00094
Silver	< 0.0010	0.0010	0.00011
Thallium	< 0.0010	0.0010	0.00015
Vanadium	< 0.0010	0.0010	0.00022
Zinc	< 0.0300	0.0300	0.0074
Batch number: 161090639006B	Sample number(s): 8331474-8331478,8331480-8331483		
Selenium	< 0.0040	0.0040	0.00050
Batch number: 161090639006D	Sample number(s): 8331474-8331478,8331480-8331483		
Barium	< 0.0040	0.0040	0.00092
Batch number: 161095713004	Sample number(s): 8331474-8331478,8331480-8331483		
Mercury	< 0.00020	0.00020	0.000050
Batch number: 161130639004A	Sample number(s): 8331479		
Antimony	< 0.0020	0.0020	0.00033
Arsenic	< 0.0040	0.0040	0.00054
Beryllium	< 0.0010	0.0010	0.000071
Cadmium	< 0.0010	0.0010	0.00020
Chromium	< 0.0040	0.0040	0.00070
Cobalt	< 0.0010	0.0010	0.00010

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 05/02/2016 16:44

Group Number: 1650191

Method Blank (continued)

Analysis Name	Result mg/l	LOQ** mg/l	MDL mg/l
Copper	< 0.0040	0.0040	0.00040
Lead	< 0.0020	0.0020	0.00013
Manganese	< 0.0040	0.0040	0.00094
Nickel	< 0.0040	0.0040	0.00094
Silver	< 0.0010	0.0010	0.00011
Thallium	< 0.0010	0.0010	0.00015
Vanadium	< 0.0010	0.0010	0.00022
Zinc	< 0.0300	0.0300	0.0074
Batch number: 161130639004B	Sample number(s): 8331479		
Selenium	< 0.0040	0.0040	0.00050
Batch number: 161130639004D	Sample number(s): 8331479		
Barium	< 0.0040	0.0040	0.00092
Batch number: 161135713006	Sample number(s): 8331479		
Mercury	< 0.00020	0.00020	0.000050
Batch number: 161180639001A	Sample number(s): 8331474,8331481		
Manganese	< 0.0040	0.0040	0.00094

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Y161111AA	Sample number(s): 8331474-8331477,8331480-8331484								
Acetone	150	147.05			98		58-138		
Benzene	20	21.32			107		78-120		
Bromodichloromethane	20	20.16			101		80-120		
Bromoform	20	15.89			79		67-120		
Bromomethane	20	22.26			111		53-130		
2-Butanone	150	131.52			88		62-131		
Carbon Disulfide	20	19.01			95		58-120		
Carbon Tetrachloride	20	23.35			117		74-130		
Chlorobenzene	20	19.77			99		80-120		
Chloroethane	20	22.33			112		56-120		
Chloroform	20	22.37			112		80-120		
Chloromethane	20	20.7			103		65-129		
Cyclohexane	20	19.56			98		65-123		
1,2-Dibromo-3-chloropropane	20	13.46			67		59-120		
Dibromochloromethane	20	18.72			94		78-120		
1,2-Dibromoethane	20	19.13			96		80-120		
1,2-Dichlorobenzene	20	18.9			95		80-120		
1,3-Dichlorobenzene	20	18.88			94		80-120		
1,4-Dichlorobenzene	20	19.41			97		80-120		
Dichlorodifluoromethane	20	18.81			94		49-127		
1,1-Dichloroethane	20	20.92			105		80-120		
1,2-Dichloroethane	20	22.55			113		72-127		

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1-Dichloroethene	20	21.13			106		76-124		
cis-1,2-Dichloroethene	20	21.73			109		80-120		
trans-1,2-Dichloroethene	20	22.58			113		80-120		
1,2-Dichloropropane	20	21.09			105		80-120		
cis-1,3-Dichloropropene	20	19.54			98		80-120		
trans-1,3-Dichloropropene	20	18.76			94		76-120		
Ethylbenzene	20	19.82			99		78-120		
Freon 113	20	20.79			104		64-136		
4-Methyl-2-pentanone	100	88.18			88		47-133		
Methylcyclohexane	20	20.16			101		66-126		
Methylene Chloride	20	21.89			109		77-121		
Styrene	20	19.23			96		80-120		
1,1,2,2-Tetrachloroethane	20	16.3			81		72-120		
Tetrachloroethene	20	21.61			108		80-129		
Toluene	20	20.37			102		80-120		
1,2,4-Trichlorobenzene	20	17.85			89		66-120		
1,1,1-Trichloroethane	20	22.2			111		66-126		
1,1,2-Trichloroethane	20	19.64			98		80-120		
Trichloroethene	20	21.1			105		80-120		
Trichlorofluoromethane	20	26.26			131*		67-129		
Vinyl Chloride	20	21.34			107		69-120		
Xylene (Total)	60	59.77			100		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16106WAC026	Sample number(s): 8331474-8331477,8331480-8331483								
Acenaphthene	1.00	0.935			93		67-126		
Acenaphthylene	1.00	0.911			91		66-113		
Anthracene	1.00	0.897			90		69-120		
Benzo(a)anthracene	1.00	0.905			91		71-118		
Benzo(a)pyrene	1.00	0.902			90		70-120		
Benzo(b)fluoranthene	1.00	0.913			91		76-132		
Benzo(g,h,i)perylene	1.00	0.962			96		58-129		
Benzo(k)fluoranthene	1.00	0.893			89		69-126		
Chrysene	1.00	0.877			88		66-119		
Dibenz(a,h)anthracene	1.00	1.01			101		47-136		
Fluoranthene	1.00	0.877			88		70-119		
Fluorene	1.00	0.893			89		69-116		
Indeno(1,2,3-cd)pyrene	1.00	0.967			97		52-134		
2-Methylnaphthalene	1.00	0.849			85		59-124		
Naphthalene	1.00	0.812			81		61-112		
Phenanthrene	1.00	0.884			88		69-113		
Pyrene	1.00	0.888			89		64-115		
Batch number: 16106WAD026	Sample number(s): 8331474-8331477,8331480-8331483								
Acetophenone	50	43.92			88		61-124		
Butylbenzylphthalate	50	43.22			86		56-124		
Di-n-butylphthalate	50	43.25			87		61-125		
4-Chloroaniline	50	42.14			84		45-115		
bis(2-Chloroethyl)ether	50	45.34			91		65-120		
2-Chlorophenol	50	46.72			93		59-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2,2'-oxybis(1-Chloropropane)	50	44.74			89		56-128		
3,3'-Dichlorobenzidine	50	46.41			93		39-118		
2,4-Dichlorophenol	50	48.12			96		66-126		
Diethylphthalate	50	42.88			86		55-124		
2,4-Dimethylphenol	50	41.04			82		63-117		
Dimethylphthalate	50	38.25			76		26-133		
2,4-Dinitrophenol	100	95.02			95		42-129		
2,4-Dinitrotoluene	50	45.71			91		71-131		
bis(2-Ethylhexyl)phthalate	50	47.37			95		66-130		
Hexachlorobenzene	50	43.02			86		64-128		
Hexachlorobutadiene	50	39.4			79		23-129		
Hexachlorocyclopentadiene	100	18.6			19		10-101		
Hexachloroethane	50	40.1			80		23-121		
Isophorone	50	47.99			96		68-125		
4-Methylphenol	50	42.43			85		44-114		
Nitrobenzene	50	46.07			92		70-121		
2-Nitrophenol	50	49.41			99		67-131		
4-Nitrophenol	50	35.18			70		11-88		
N-Nitroso-di-n-propylamine	50	46.14			92		63-121		
N-Nitrosodiphenylamine	50	45.91			92		65-125		
Di-n-octylphthalate	50	44.34			89		73-131		
Pentachlorophenol	50	48.67			97		53-133		
Phenol	50	28.39			57		19-82		
2,4,5-Trichlorophenol	50	47.56			95		68-126		
2,4,6-Trichlorophenol	50	49.79			100		71-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161070016A	Sample number(s): 8331474-8331477,8331480-8331482								
1,3-Dinitrobenzene	10	10.83			108		70-130		
2,4-Dinitrotoluene	10	10.42			104		70-130		
Nitrobenzene	10	10.88			109		70-130		
4-Nitrotoluene	10	9.57			96		70-130		
1,3,5-Trinitrobenzene	10	7.90			79		70-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161060016A	Sample number(s): 8331474-8331477,8331480-8331483								
PCB-1016	5.04	4.25			84		60-117		
PCB-1260	5.05	4.52			90		57-134		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 161120099A	Sample number(s): 8331474-8331477,8331480-8331481								
Ethylene glycol	201	206.98			103		54-129		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 161090639006A	Sample number(s): 8331474-8331478,8331480-8331483								
Antimony	0.00600	0.00610			102		80-120		
Arsenic	0.0100	0.0102			102		80-120		
Beryllium	0.00400	0.00417			104		80-120		
Cadmium	0.00500	0.00499			100		80-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chromium	0.0500	0.0497			99		80-120		
Cobalt	0.250	0.268			107		80-120		
Copper	0.0500	0.0539			108		80-120		
Lead	0.0150	0.0157			105		80-120		
Manganese	0.0500	0.0528			106		80-120		
Nickel	0.0500	0.0536			107		80-120		
Silver	0.0500	0.0514			103		80-120		
Thallium	0.00200	0.00214			107		80-120		
Vanadium	0.0500	0.0476			95		80-120		
Zinc	0.500	0.524			105		80-120		
Batch number: 161090639006B	Sample number(s): 8331474-8331478,8331480-8331483								
Selenium	0.0100	0.0104			104		80-120		
Batch number: 161090639006D	Sample number(s): 8331474-8331478,8331480-8331483								
Barium	0.0500	0.0506			101		80-120		
Batch number: 161095713004	Sample number(s): 8331474-8331478,8331480-8331483								
Mercury	0.00100	0.00104			104		80-120		
Batch number: 161130639004A	Sample number(s): 8331479								
Antimony	0.00600	0.00680			113		80-120		
Arsenic	0.0100	0.0108			108		80-120		
Beryllium	0.00400	0.00439			110		80-120		
Cadmium	0.00500	0.00516			103		80-120		
Chromium	0.0500	0.0522			104		80-120		
Cobalt	0.250	0.255			102		80-120		
Copper	0.0500	0.0511			102		80-120		
Lead	0.0150	0.0160			106		80-120		
Manganese	0.0500	0.0499			100		80-120		
Nickel	0.0500	0.0509			102		80-120		
Silver	0.0500	0.0535			107		80-120		
Thallium	0.00200	0.00217			108		80-120		
Vanadium	0.0500	0.0532			106		80-120		
Zinc	0.500	0.534			107		80-120		
Batch number: 161130639004B	Sample number(s): 8331479								
Selenium	0.0100	0.0107			107		80-120		
Batch number: 161130639004D	Sample number(s): 8331479								
Barium	0.0500	0.0526			105		80-120		
Batch number: 161135713006	Sample number(s): 8331479								
Mercury	0.00100	0.000935	0.00100	0.000947	94	95	80-120	1	20
Batch number: 161180639001A	Sample number(s): 8331474,8331481								
Manganese	0.0500	0.0505			101		80-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: Y161111AA	Sample number(s): 8331474-8331477,8331480-8331484 UNSPK: 8331475									
Acetone	< 20	150	149.06	150	143.12	99	95	58-138	4	30
Benzene	< 1	20	23.24	20	23.31	116	117	78-120	0	30
Bromodichloromethane	< 1	20	21.42	20	21.57	107	108	80-120	1	30
Bromoform	< 4	20	16.89	20	16.83	84	84	67-120	0	30
Bromomethane	< 1	20	24.93	20	26.05	125	130	53-130	4	30
2-Butanone	< 10	150	133.33	150	133.63	89	89	62-131	0	30
Carbon Disulfide	< 5	20	22.13	20	21.89	111	109	58-120	1	30
Carbon Tetrachloride	< 1	20	26.6	20	26.54	133*	133*	74-130	0	30
Chlorobenzene	< 1	20	21.25	20	21.36	106	107	80-120	1	30
Chloroethane	< 1	20	24.83	20	26.04	124*	130*	56-120	5	30
Chloroform	< 1	20	24.34	20	24.34	122*	122*	80-120	0	30
Chloromethane	< 1	20	23.03	20	23.14	115	116	65-129	0	30
Cyclohexane	< 5	20	23.09	20	23.43	115	117	65-123	1	30
1,2-Dibromo-3-chloropropane	< 5	20	13.87	20	13.72	69	69	59-120	1	30
Dibromochloromethane	< 1	20	19.65	20	19.92	98	100	78-120	1	30
1,2-Dibromoethane	< 1	20	19.72	20	19.79	99	99	80-120	0	30
1,2-Dichlorobenzene	< 5	20	19.53	20	19.94	98	100	80-120	2	30
1,3-Dichlorobenzene	< 5	20	19.81	20	20.08	99	100	80-120	1	30
1,4-Dichlorobenzene	< 5	20	20.19	20	20.4	101	102	80-120	1	30
Dichlorodifluoromethane	< 1	20	22.87	20	22.66	114	113	49-127	1	30
1,1-Dichloroethane	< 1	20	23.05	20	23.18	115	116	80-120	1	30
1,2-Dichloroethane	< 1	20	23.64	20	23.34	118	117	72-127	1	30
1,1-Dichloroethene	< 1	20	24.83	20	24.67	124	123	76-124	1	30
cis-1,2-Dichloroethene	6.60	20	31.41	20	31.55	124*	125*	80-120	0	30
trans-1,2-Dichloroethene	< 1	20	25	20	25.03	125*	125*	80-120	0	30
1,2-Dichloropropane	< 1	20	22.12	20	22.15	111	111	80-120	0	30
cis-1,3-Dichloropropene	< 1	20	18.97	20	19.53	95	98	80-120	3	30
trans-1,3-Dichloropropene	< 1	20	19.46	20	19.87	97	99	76-120	2	30
Ethylbenzene	< 1	20	21.83	20	21.78	109	109	78-120	0	30
Freon 113	< 10	20	25.29	20	25.13	126	126	64-136	1	30
4-Methyl-2-pentanone	< 10	100	88.03	100	88.43	88	88	47-133	0	30
Methylcyclohexane	< 5	20	23.71	20	23.59	119	118	66-126	0	30
Methylene Chloride	< 4	20	23.51	20	23.42	118	117	77-121	0	30
Styrene	< 5	20	20.73	20	20.54	104	103	80-120	1	30
1,1,2,2-Tetrachloroethane	< 1	20	16.12	20	16.34	81	82	72-120	1	30
Tetrachloroethene	4.23	20	28.86	20	28.82	123	123	80-129	0	30
Toluene	< 1	20	22.03	20	22.18	110	111	80-120	1	30
1,2,4-Trichlorobenzene	< 5	20	18.13	20	18.48	91	92	66-120	2	30
1,1,1-Trichloroethane	< 1	20	24.7	20	24.6	124	123	66-126	0	30
1,1,2-Trichloroethane	< 1	20	20.08	20	19.91	100	100	80-120	1	30
Trichloroethene	0.741	20	24.34	20	24.24	118	117	80-120	0	30
Trichlorofluoromethane	< 1	20	30.06	20	30.83	150*	154*	67-129	3	30
Vinyl Chloride	< 1	20	24.73	20	25.04	124*	125*	69-120	1	30
Xylene (Total)	< 1	60	65.69	60	65.76	109	110	80-120	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16106WAC026	Sample number(s): 8331474-8331477,8331480-8331483 UNSPK: 8331475									

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Acenaphthene	< 0.051	1.05	1.02	1.03	0.986	98	96	67-126	4	30
Acenaphthylene	< 0.051	1.05	0.989	1.03	0.951	95	92	66-113	4	30
Anthracene	< 0.051	1.05	0.972	1.03	0.961	93	93	69-120	1	30
Benzo(a)anthracene	< 0.051	1.05	0.954	1.03	0.918	91	89	71-118	4	30
Benzo(a)pyrene	< 0.051	1.05	0.632	1.03	0.594	60*	58*	70-120	6	30
Benzo(b)fluoranthene	< 0.051	1.05	0.873	1.03	0.790	83	77	76-132	10	30
Benzo(g,h,i)perylene	< 0.051	1.05	0.584	1.03	0.510	56*	50*	58-129	14	30
Benzo(k)fluoranthene	< 0.051	1.05	0.843	1.03	0.739	81	72	69-126	13	30
Chrysene	< 0.051	1.05	0.897	1.03	0.868	86	84	66-119	3	30
Dibenz(a,h)anthracene	< 0.051	1.05	0.824	1.03	0.681	79	66	47-136	19	30
Fluoranthene	0.0200	1.05	0.883	1.03	0.879	82	83	70-119	0	30
Fluorene	< 0.051	1.05	0.985	1.03	0.955	94	93	69-116	3	30
Indeno(1,2,3-cd)pyrene	< 0.051	1.05	0.766	1.03	0.628	73	61	52-134	20	30
2-Methylnaphthalene	0.0200	1.05	0.946	1.03	0.955	89	91	59-124	1	30
Naphthalene	0.0400	1.05	0.909	1.03	0.917	83	85	61-112	1	30
Phenanthrene	< 0.061	1.05	0.881	1.03	0.960	84	93	69-113	9	30
Pyrene	0.0200	1.05	0.857	1.03	0.901	80	86	64-115	5	30
Batch number: 16106WAD026	Sample number(s): 8331474-8331477,8331480-8331483 UNSPK: 8331475									
Acetophenone	< 1	51.44	46.74	50.81	46.62	91	92	61-124	0	30
Butylbenzylphthalate	< 5	51.44	48.75	50.81	48.47	95	95	56-124	1	30
Di-n-butylphthalate	< 5	51.44	47.31	50.81	47.86	92	94	61-125	1	30
4-Chloroaniline	< 4	51.44	44.75	50.81	45.02	87	89	45-115	1	30
bis(2-Chloroethyl)ether	< 1	51.44	48.61	50.81	47.8	94	94	65-120	2	30
2-Chlorophenol	0.754	51.44	39.53	50.81	37.93	75	73	59-120	4	30
2,2'-oxybis(1-Chloropropane)	< 1	51.44	47.63	50.81	46.69	93	92	56-128	2	30
3,3'-Dichlorobenzidine	< 5	51.44	47.36	50.81	47.13	92	93	39-118	0	30
2,4-Dichlorophenol	< 1	51.44	40.67	50.81	38.63	79	76	66-126	5	30
Diethylphthalate	< 5	51.44	44.49	50.81	45.39	86	89	55-124	2	30
2,4-Dimethylphenol	< 1	51.44	28.45	50.81	29.46	55*	58*	63-117	3	30
Dimethylphthalate	< 5	51.44	41.59	50.81	41.84	81	82	26-133	1	30
2,4-Dinitrophenol	< 31	102.88	86.54	101.63	86.07	84	85	42-129	1	30
2,4-Dinitrotoluene	< 5	51.44	49.04	50.81	48.92	95	96	71-131	0	30
bis(2-Ethylhexyl)phthalate	< 5	51.44	51.89	50.81	50.93	101	100	66-130	2	30
Hexachlorobenzene	< 0.5	51.44	46.87	50.81	46.99	91	92	64-128	0	30
Hexachlorobutadiene	< 1	51.44	43.24	50.81	43.61	84	86	23-129	1	30
Hexachlorocyclopentadiene	< 15	102.88	70.69	101.63	68.12	69	67	10-101	4	30
Hexachloroethane	< 5	51.44	43.18	50.81	43.22	84	85	23-121	0	30
Isophorone	< 1	51.44	51.3	50.81	50.82	100	100	68-125	1	30
4-Methylphenol	< 1	51.44	25.53	50.81	23.79	50	47	44-114	7	30
Nitrobenzene	0.575	51.44	49.51	50.81	48.83	95	95	70-121	1	30
2-Nitrophenol	< 1	51.44	54.38	50.81	55.42	106	109	67-131	2	30
4-Nitrophenol	< 31	51.44	38.05	50.81	37.34	74	73	11-88	2	30
N-Nitroso-di-n-propylamine	< 1	51.44	49.52	50.81	48.85	96	96	63-121	1	30
N-Nitrosodiphenylamine	< 1	51.44	48.54	50.81	48.89	94	96	65-125	1	30
Di-n-octylphthalate	< 5	51.44	48.3	50.81	47.95	94	94	73-131	1	30
Pentachlorophenol	< 5	51.44	37.93	50.81	38.15	74	75	53-133	1	30
Phenol	< 1	51.44	21.74	50.81	20.05	42	39	19-82	8	30
2,4,5-Trichlorophenol	< 1	51.44	42.66	50.81	42.25	83	83	68-126	1	30

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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4,6-Trichlorophenol	< 1	51.44	42.18	50.81	42.57	82	84	71-130	1	30
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: 161070016A	Sample number(s): 8331474-8331477,8331480-8331482 UNSPK: 8331475									
1,3-Dinitrobenzene	< 0.60	10	10.95	10	10.98	110	110	70-130	0	30
2,4-Dinitrotoluene	< 0.60	10	10.54	10	10.35	105	103	70-130	2	30
Nitrobenzene	< 0.60	10	11.15	10	10.89	111	109	70-130	2	30
4-Nitrotoluene	< 0.60	10	9.68	10	9.34	97	93	70-130	4	30
1,3,5-Trinitrobenzene	< 0.60	10	9.54	10	9.10	95	91	70-130	5	30
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: 161060016A	Sample number(s): 8331474-8331477,8331480-8331483 UNSPK: 8331475									
PCB-1016	< 0.43	5.27	4.42	5.25	4.16	84	79	60-117	6	30
PCB-1260	< 0.43	5.28	4.25	5.26	3.93	81	75	57-134	8	30
	mg/l	**mg/l**	**mg/l**	**mg/l**	**mg/l**					
Batch number: 161120099A	Sample number(s): 8331474-8331477,8331480-8331481 UNSPK: 8331475									
Ethylene glycol	< 10	201	221.67	201	219.85	110	109	54-129	1	20
	mg/l	**mg/l**	**mg/l**	**mg/l**	**mg/l**					
Batch number: 161090639006A	Sample number(s): 8331474-8331478,8331480-8331483 UNSPK: 8331475									
Antimony	< 0.0020	0.00600	0.00629	0.00600	0.00603	105	100	75-125	4	20
Arsenic	< 0.0040	0.0100	0.0109	0.0100	0.0102	109	102	75-125	7	20
Beryllium	0.000113	0.00400	0.00413	0.00400	0.00395	100	96	75-125	4	20
Cadmium	0.000218	0.00500	0.00527	0.00500	0.00500	101	96	75-125	5	20
Chromium	0.00329	0.0500	0.0489	0.0500	0.0467	91	87	75-125	5	20
Cobalt	0.0164	0.250	0.280	0.250	0.258	105	97	75-125	8	20
Copper	0.00324	0.0500	0.0557	0.0500	0.0530	105	99	75-125	5	20
Lead	0.00340	0.0150	0.0164	0.0150	0.0156	87	81	75-125	5	20
Manganese	1.98	0.0500	1.69	0.0500	1.66	-575 (2)	-639 (2)	75-125	2	20
Nickel	0.00623	0.0500	0.0589	0.0500	0.0550	105	98	75-125	7	20
Silver	< 0.0010	0.0500	0.0523	0.0500	0.0494	105	99	75-125	6	20
Thallium	< 0.0010	0.00200	0.00221	0.00200	0.00205	110	102	75-125	8	20
Vanadium	0.00344	0.0500	0.0482	0.0500	0.0457	89	85	75-125	5	20
Zinc	0.144	0.500	0.641	0.500	0.614	99	94	75-125	4	20
Batch number: 161090639006B	Sample number(s): 8331474-8331478,8331480-8331483 UNSPK: 8331475									
Selenium	< 0.0040	0.0100	0.0105	0.0100	0.00977	105	98	75-125	7	20
Batch number: 161090639006D	Sample number(s): 8331474-8331478,8331480-8331483 UNSPK: 8331475									
Barium	0.129	0.0500	0.173	0.0500	0.170	87	82	75-125	1	20
Batch number: 161095713004	Sample number(s): 8331474-8331478,8331480-8331483 UNSPK: 8331475									
Mercury	< 0.00020	0.00100	0.000992	0.00100	0.00102	99	102	80-120	2	20
Batch number: 161130639004A	Sample number(s): 8331479 UNSPK: 8331479									
Antimony	< 0.0020	0.00600	0.00659	0.00600	0.00693	110	115	75-125	5	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Arsenic	< 0.0040	0.0100	0.0114	0.0100	0.0111	114	111	75-125	3	20
Beryllium	< 0.0010	0.00400	0.00457	0.00400	0.00436	114	109	75-125	5	20
Cadmium	< 0.0010	0.00500	0.00592	0.00500	0.00534	118	107	75-125	10	20
Chromium	0.00142	0.0500	0.0547	0.0500	0.0525	107	102	75-125	4	20
Cobalt	0.0156	0.250	0.286	0.250	0.269	108	101	75-125	6	20
Copper	0.00388	0.0500	0.0582	0.0500	0.0543	109	101	75-125	7	20
Lead	0.00162	0.0150	0.0184	0.0150	0.0178	112	108	75-125	3	20
Manganese	2.01	0.0500	2.01	0.0500	1.95	-11 (2)	-123 (2)	75-125	3	20
Nickel	0.00583	0.0500	0.0606	0.0500	0.0563	110	101	75-125	7	20
Silver	< 0.0010	0.0500	0.0568	0.0500	0.0523	114	105	75-125	8	20
Thallium	< 0.0010	0.00200	0.00238	0.00200	0.00224	119	112	75-125	6	20
Vanadium	< 0.0010	0.0500	0.0529	0.0500	0.0536	106	107	75-125	1	20
Zinc	0.155	0.500	0.681	0.500	0.642	105	97	75-125	6	20
Batch number: 161130639004B	Sample number(s): 8331479 UNSPK: 8331479									
Selenium	< 0.0040	0.0100	0.0108	0.0100	0.0105	108	105	75-125	2	20
Batch number: 161130639004D	Sample number(s): 8331479 UNSPK: 8331479									
Barium	0.133	0.0500	0.193	0.0500	0.167	120	68*	75-125	14	20
Batch number: 161180639001A	Sample number(s): 8331474,8331481 UNSPK: P346181									
Manganese	0.168	0.0500	0.218	0.0500	0.231	99	125	75-125	6	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 161090639006A	Sample number(s): 8331474-8331478,8331480-8331483 BKG: 8331475			
Antimony	< 0.0020	< 0.0020	0 (1)	20
Arsenic	< 0.0040	< 0.0040	0 (1)	20
Beryllium	0.000113	0.000102	10 (1)	20
Cadmium	0.000218	0.000239	9 (1)	20
Chromium	0.00329	0.00348	5 (1)	20
Cobalt	0.0164	0.0160	2	20
Copper	0.00324	0.00369	13 (1)	20
Lead	0.00340	0.00339	0 (1)	20
Manganese	1.98	2.06	4	20
Nickel	0.00623	0.00671	7 (1)	20
Silver	< 0.0010	< 0.0010	0 (1)	20
Thallium	< 0.0010	< 0.0010	0 (1)	20
Vanadium	0.00344	0.00362	5 (1)	20
Zinc	0.144	0.145	0 (1)	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 161090639006B	Sample number(s): 8331474-8331478,8331480-8331483 BKG: 8331475			
Selenium	< 0.0040	< 0.0040	0 (1)	20
Batch number: 161090639006D	Sample number(s): 8331474-8331478,8331480-8331483 BKG: 8331475			
Barium	0.129	0.132	2	20
Batch number: 161095713004	Sample number(s): 8331474-8331478,8331480-8331483 BKG: 8331475			
Mercury	< 0.00020	< 0.00020	0 (1)	20
Batch number: 161130639004A	Sample number(s): 8331479 BKG: 8331479			
Antimony	< 0.0020	0.000463	200* (1)	20
Arsenic	< 0.0040	< 0.0040	0 (1)	20
Beryllium	< 0.0010	< 0.0010	0 (1)	20
Cadmium	< 0.0010	< 0.0010	0 (1)	20
Chromium	0.00142	0.00120	17 (1)	20
Cobalt	0.0156	0.0158	1	20
Copper	0.00388	0.00372	4 (1)	20
Lead	0.00162	0.00164	1 (1)	20
Manganese	2.01	1.99	1	20
Nickel	0.00583	0.00599	3 (1)	20
Silver	< 0.0010	< 0.0010	0 (1)	20
Thallium	< 0.0010	< 0.0010	0 (1)	20
Vanadium	< 0.0010	0.000375	200* (1)	20
Zinc	0.155	0.143	9 (1)	20
Batch number: 161130639004B	Sample number(s): 8331479 BKG: 8331479			
Selenium	< 0.0040	< 0.0040	0 (1)	20
Batch number: 161130639004D	Sample number(s): 8331479 BKG: 8331479			
Barium	0.133	0.125	6	20
Batch number: 161180639001A	Sample number(s): 8331474,8331481 BKG: P346181			
Manganese	0.168	0.165	2	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- 5ml Water by 8260C
Batch number: Y161111AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8331474	112	109	98	91
8331475	112	110	98	90
8331476	105	104	101	101
8331477	107	105	101	101
8331480	114	113	99	91
8331481	113	111	98	91
8331482	115	111	97	89

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1650191
Reported: 05/02/2016 16:44

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8331483	114	109	98	89
8331484	114	108	97	90
Blank	114	111	97	90
LCS	105	105	101	101
MS	105	104	101	101
MSD	107	105	101	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270D SIM
Batch number: 16106WAC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
8331474	92	103	97
8331475	74	55	77
8331476	84	61	85
8331477	91	61	87
8331480	88	54	86
8331481	90	91	86
8331482	96	76	91
8331483	101	54	91
Blank	91	91	84
LCS	87	89	80
MS	84	61	85
MSD	91	61	87
Limits:	50-133	41-137	43-126

Analysis Name: SVOAs by 8270D in Water
Batch number: 16106WAD026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8331474	35	50	82	82	83	86
8331475	15	23	72	91	91	87
8331476	34	48	75	92	89	89
8331477	31	44	78	92	89	86
8331480	16	27	74	85	85	67
8331481	34	53	73	88	89	89
8331482	34	53	86	86	86	70
8331483	30	47	78	81	80	62
Blank	36	55	85	85	85	91
LCS	47	66	95	86	85	90
MS	34	48	75	92	89	89
MSD	31	44	78	92	89	86
Limits:	10-85	10-103	22-150	46-128	61-112	41-125

Analysis Name: PCBs in Water by 8082A
Batch number: 161060016A

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Quality Control Summary

Client Name: Norfolk Southern Railway Co.
Reported: 05/02/2016 16:44

Group Number: 1650191

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

	Tetrachloro-m-xylene	Decachlorobiphenyl
8331474	102	60
8331475	97	69
8331476	100	75
8331477	99	65
8331480	97	74
8331481	102	74
8331482	99	51
8331483	79	23
Blank	98	54
LCS	96	52
MS	100	75
MSD	99	65
Limits:	33-137	10-148

Analysis Name: Nitroaromatics/Amines 8330B(w)
Batch number: 161070016A

	3,4-Dinitrotoluene
8331474	102
8331475	103
8331476	105
8331477	103
8331480	107
8331481	97
8331482	103
Blank	104
LCS	102
MS	105
MSD	103
Limits:	85-115

Analysis Name: Glycols in Water
Batch number: 161120099A

	Tetramethylene glycol
8331474	84
8331475	89
8331476	116
8331477	108
8331480	87
8331481	91
Blank	94
LCS	107
MS	116
MSD	108
Limits:	54-136

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Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10302 Group # 1650191 Sample # 8331474-84

COC # 496934

Client Information

Client: AMEC FOSTER WHEELER

Acct. #:

Project Name/#: FORMER COHN PROPERTY - NSRR COLUMBUS, GA/6123140242

PWSID #:

Project Manager: T. KINNARD

P.O. #:

Sampler: EVER GUILLEN / MARK ANDREWS

Quote #:

State where samples were collected: GEORGIA

For Compliance: Yes ☐ No ☐

Matrix

Sediment ☐ Soil ☐ Potable ☐ Ground ☒ Surface ☐ Water NPDES ☐ Other: ____

Analysis Requested / Preservation Codes

For Lab Use Only

FSC: ____

SCR#: ____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	SPECIAL COI LIST VOCS 8260C	SPECIAL COI LIST SVOCS 8270D	PAH BY SIM 8270 SIM	SPECIAL COI LIST TAL METALS 6020A	MERCURY 7470A	TCL 4.3 PCBs 8082A	SPECIAL COI LIST EXPLOSIVES 8330B	ETHYLENE GLYCOL 8015B	SPECIAL COI LIST TAL METALS 6020A - Field Filtered Dissolved	MERCURY 7470A - Field Filtered Dissolved	Remarks
MW-3-041116	4-11-16	1518	X		11	X	X	X	X	X	X	X	X			NOTE: LIST ATTACHED
MW-2-041116	4-11-16	1610	X		12 ~~11~~	X	X	X	X	X	X	X	X	X	X	
MW-2 MS-041116	4-11-16	1610	X		11	X	X	X	X	X	X	X	X			
MW-2 MSD-041116	4-11-16	1610	X		11	X	X	X	X	X	X	X	X			
DUP-1-041116	4-11-16	1200	X		11	X	X	X	X	X	X	X	X			
EB-1-041116	4-11-16	1354	X		11	X	X	X	X	X	X	X	X			
MW-4-041116	4-11-16	1758	X		9	X	X	X	X	X	X	X	-			
MW-1-041116	4-11-16	1955	X		8	X	X	X	X	X	X	-	-			
TB-16088			X		4	X	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~				TRIP BLANK VOCS ONLY

Remarks

(X) Analyses added to COC and performed per bottle received per Judy Hartness. KAK1885, 4/13/16.
* Bottle count corrected. KAK1885, 4/13/16.

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: ____

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	4-12-16	1800			
			Joe Huber [signature]	4-13-16	915

EDD Required? Yes No

If yes, format: ____

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS ____ FedEx ____ Other ____

Temperature upon receipt 1.0-1.8 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 1115

1650191

Groundwater Compounds To Be Analyzed
Former Cohn Property
NS- Columbus, GA

Analysis Name	Units	Method	Cas Number	HSRA Appendix III Type 1/3	MCL
VOCs					
1,1,1-Trichloroethane	ug/L	SW-846 8260C	71-55-6	200	200
1,1,2,2-Tetrachloroethane	ug/L	SW-846 8260C	79-34-5	1	--
1,1,2-Trichloroethane	ug/L	SW-846 8260C	79-00-5	5	5
1,1-Dichloroethane	ug/L	SW-846 8260C	75-34-3	4,000	
1,1-Dichloroethene	ug/L	SW-846 8260C	75-35-4	7	7
1,2,4-Trichlorobenzene	ug/L	SW-846 8260C	120-82-1	70	70
1,2-Dibromo-3-chloropropane	ug/L	SW-846 8260C	96-12-8	0.2	0.2
1,2-Dibromoethane	ug/L	SW-846 8260C	106-93-4	0.05	0.05
1,2-Dichlorobenzene	ug/L	SW-846 8260C	95-50-1	600	600
1,2-Dichloroethane	ug/L	SW-846 8260C	107-06-2	5	5
1,2-Dichloropropane	ug/L	SW-846 8260C	78-87-5	5	5
1,3-Dichlorobenzene	ug/L	SW-846 8260C	541-73-1	600	--
1,4-Dichlorobenzene	ug/L	SW-846 8260C	106-46-7	75	75
2-Butanone	ug/L	SW-846 8260C	78-93-3	2,000	--
4-Methyl-2-pentanone	ug/L	SW-846 8260C	108-10-1	2,000	--
Acetone	ug/L	SW-846 8260C	67-64-1	4,000	--
Benzene	ug/L	SW-846 8260C	71-43-2	5	5
Bromodichloromethane	ug/L	SW-846 8260C	75-27-4	80	80
Bromoform	ug/L	SW-846 8260C	75-25-2	80	80
Bromomethane	ug/L	SW-846 8260C	74-83-9	10	--
Carbon Disulfide	ug/L	SW-846 8260C	75-15-0	4,000	--
Carbon Tetrachloride	ug/L	SW-846 8260C	56-23-5	5	5
Chlorobenzene	ug/L	SW-846 8260C	108-90-7	100	100
Chloroethane	ug/L	SW-846 8260C	75-00-3	1	--
Chloroform	ug/L	SW-846 8260C	67-66-3	80	80
Chloromethane	ug/L	SW-846 8260C	74-87-3	3	--
cis-1,2-Dichloroethene	ug/L	SW-846 8260C	156-59-2	70	70
cis-1,3-Dichloropropene	ug/L	SW-846 8260C	10061-01-5	2	--
Cyclohexane	ug/L	SW-846 8260C	110-82-7	1	--
Dibromochloromethane	ug/L	SW-846 8260C	124-48-1	80	80
Dichlorodifluoromethane	ug/L	SW-846 8260C	75-71-8	1,000	--
Ethylbenzene	ug/L	SW-846 8260C	100-41-4	700	700
Freon 113	ug/L	SW-846 8260C	76-13-1	1,000,000	--
Methylcyclohexane	ug/L	SW-846 8260C	108-87-2	1	--
Methylene Chloride	ug/L	SW-846 8260C	75-09-2	5	5
Styrene	ug/L	SW-846 8260C	100-42-5	100	100
Tetrachloroethene	ug/L	SW-846 8260C	127-18-4	5	5
Toluene	ug/L	SW-846 8260C	108-88-3	1,000	1,000
trans-1,2-Dichloroethene	ug/L	SW-846 8260C	156-60-5	100	100
trans-1,3-Dichloropropene	ug/L	SW-846 8260C	10061-02-6	2	--
Trichloroethene	ug/L	SW-846 8260C	79-01-6	5	5
Trichlorofluoromethane	ug/L	SW-846 8260C	75-69-4	2,000	--
Vinyl Chloride	ug/L	SW-846 8260C	75-01-4	2	2
Xylene (Total)	ug/L	SW-846 8260C	1330-20-7	10,000	10,000
SVOCs					

1650191

Groundwater Compounds To Be Analyzed
Former Cohn Property
NS- Columbus, GA

Analysis Name	Units	Method	Cas Number	HSRA Appendix III Type 1/3	MCL
2,2'-oxybis(1-Chloropropane)	ug/L	SW-846 8270D	108-60-1	1	--
2,4,5-Trichlorophenol	ug/L	SW-846 8270D	95-95-4	4,000	--
2,4,6-Trichlorophenol	ug/L	SW-846 8270D	88-06-2	30	--
2,4-Dichlorophenol	ug/L	SW-846 8270D	120-83-2	20	--
2,4-Dimethylphenol	ug/L	SW-846 8270D	105-67-9	700	--
2,4-Dinitrophenol	ug/L	SW-846 8270D	51-28-5	70	--
2,4-Dinitrotoluene	ug/L	SW-846 8270D	121-14-2	10	--
2-Chlorophenol	ug/L	SW-846 8270D	95-57-8	40	--
2-Nitrophenol	ug/L	SW-846 8270D	88-75-5	10	--
3,3'-Dichlorobenzidine	ug/L	SW-846 8270D	91-94-1	10	--
4-Chloroaniline	ug/L	SW-846 8270D	106-47-8	100	--
4-Methylphenol (includes 3-methyl)	ug/L	SW-846 8270D	106-44-5	10	--
4-Nitrophenol	ug/L	SW-846 8270D	100-02-7	60	--
Acetophenone	ug/L	SW-846 8270D	98-86-2	4,000	--
bis(2-Chloroethyl)ether	ug/L	SW-846 8270D	111-44-4	10	--
bis(2-Ethylhexyl)phthalate	ug/L	SW-846 8270D	117-81-7	2	6
Butylbenzylphthalate	ug/L	SW-846 8270D	85-68-7	2	--
Diethylphthalate	ug/L	SW-846 8270D	84-66-2	5,000	--
Dimethylphthalate	ug/L	SW-846 8270D	131-11-3	400,000	--
Di-n-butylphthalate	ug/L	SW-846 8270D	84-74-2	4,000	--
Di-n-octylphthalate	ug/L	SW-846 8270D	117-84-0	10	--
Hexachlorobenzene	ug/L	SW-846 8270D	118-74-1	1	1
Hexachlorobutadiene	ug/L	SW-846 8270D	87-68-3	10	--
Hexachlorocyclopentadiene	ug/L	SW-846 8270D	77-47-4	50	50
Hexachloroethane	ug/L	SW-846 8270D	67-72-1	10	--
Isophorone	ug/L	SW-846 8270D	78-59-1	100	--
Nitrobenzene	ug/L	SW-846 8270D	98-95-3	20	--
N-Nitroso-di-n-propylamine	ug/L	SW-846 8270D	621-64-7	10	--
N-Nitrosodiphenylamine	ug/L	SW-846 8270D	86-30-6	10	--
Pentachlorophenol	ug/L	SW-846 8270D	87-86-5	1	1
Phenol	ug/L	SW-846 8270D	108-95-2	4,000	--
	ug/L				
PAHs by SIM	ug/L				
2-Methylnaphthalene	ug/L	SW-846 8270D SIM	91-57-6	10	0.2
Acenaphthene	ug/L	SW-846 8270D SIM	83-32-9	2,000	0.2
Acenaphthylene	ug/L	SW-846 8270D SIM	208-96-8	10	0.2
Anthracene	ug/L	SW-846 8270D SIM	120-12-7	10	0.2
Benzo(a)anthracene	ug/L	SW-846 8270D SIM	56-55-3	0.1	0.2
Benzo(a)pyrene	ug/L	SW-846 8270D SIM	50-32-8	0.2	0.2
Benzo(b)fluoranthene	ug/L	SW-846 8270D SIM	205-99-2	0.2	0.2
Benzo(g,h,i)perylene	ug/L	SW-846 8270D SIM	191-24-2	10	0.2
Benzo(k)fluoranthene	ug/L	SW-846 8270D SIM	207-08-9	0.1	0.2
Chrysene	ug/L	SW-846 8270D SIM	218-01-9	0.2	0.2
Dibenz(a,h)anthracene	ug/L	SW-846 8270D SIM	53-70-3	0.3	0.2
Fluoranthene	ug/L	SW-846 8270D SIM	206-44-0	1,000	0.2
Fluorene	ug/L	SW-846 8270D SIM	86-73-7	1,000	0.2
Indeno(1,2,3-cd)pyrene	ug/L	SW-846 8270D SIM	193-39-5	0.4	0.2

1650191

Groundwater Compounds To Be Analyzed
Former Cohn Property
NS- Columbus, GA

Analysis Name	Units	Method	Cas Number	HSRA Appendix III Type 1/3	MCL
Naphthalene	ug/L	SW-846 8270D SIM	91-20-3	20	0.2
Phenanthrene	ug/L	SW-846 8270D SIM	85-01-8	10	0.2
Pyrene	ug/L	SW-846 8270D SIM	129-00-0	1,000	0.2
	ug/L				
Explosives	ug/L				
1,3,5-Trinitrobenzene	ug/L	SW-846 8330B Rev.2 Oct. 2006	99-35-4	2	--
1,3-Dinitrobenzene	ug/L	SW-846 8330B Rev.2 Oct. 2006	99-65-0	1	--
2,4-Dinitrotoluene	ug/L	SW-846 8330B Rev.2 Oct. 2006	121-14-2	0.05	--
4-Nitrotoluene	ug/L	SW-846 8330B Rev.2 Oct. 2006	99-99-0	0.2	--
Nitrobenzene	ug/L	SW-846 8330B Rev.2 Oct. 2006	98-95-3	20	--
PCBs					
PCB-1016	ug/L	SW-846 8082A Feb 2007 Rev 1	12674-11-2	1	0.5
PCB-1221	ug/L	SW-846 8082A Feb 2007 Rev 1	11104-28-2	1	0.5
PCB-1232	ug/L	SW-846 8082A Feb 2007 Rev 1	11141-16-5	1	0.5
PCB-1242	ug/L	SW-846 8082A Feb 2007 Rev 1	53469-21-9	1	0.5
PCB-1248	ug/L	SW-846 8082A Feb 2007 Rev 1	12672-29-6	1	0.5
PCB-1254	ug/L	SW-846 8082A Feb 2007 Rev 1	11097-69-1	1	0.5
PCB-1260	ug/L	SW-846 8082A Feb 2007 Rev 1	11096-82-5	1	0.5
Ethylene glycol					
Ethylene glycol	mg/L	SW-846 8015B	107-21-1	--	--
Metals					
Antimony	mg/L	SW-846 6020A	7440-36-0	0.006	0.006
Arsenic	mg/L	SW-846 6020A	7440-38-2	0.01	0.01
Barium	mg/L	SW-846 6020A	7440-39-3	2	2
Beryllium	mg/L	SW-846 6020A	7440-41-7	0.004	0.004
Cadmium	mg/L	SW-846 6020A	7440-43-9	0.005	0.005
Chromium	mg/L	SW-846 6020A	7440-47-3	0.1	0.1
Cobalt	mg/L	SW-846 6020A	7440-48-4	0.01	--
Copper	mg/L	SW-846 6020A	7440-50-8	1.3	1.3
Lead	mg/L	SW-846 6020A	7439-92-1	0.015	0.015
Manganese	mg/L	SW-846 6020A	7439-96-5	0.002	0.05 *
Nickel	mg/L	SW-846 6020A	7440-02-0	0.1	--
Selenium	mg/L	SW-846 6020A	7782-49-2	0.05	0.05
Silver	mg/L	SW-846 6020A	7440-22-4	0.1	0.1*
Thallium	mg/L	SW-846 6020A	7440-28-0	0.002	0.002
Vanadium	mg/L	SW-846 6020A	7440-62-2	0.2	0.2
Zinc	mg/L	SW-846 6020A	7440-66-6	2	5*
Mercury					
Mercury	mg/L	SW-846 7470A	7439-97-6	0.002	0.002

Notes
RLs must be as close to HSRA Appendix III/Type1&3 and MCLs as possible (where applicable)
* Value is the Secondary MCL

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Sample Administration Receipt Documentation Log

Doc Log ID: 142676

Group Number(s): 1650191

Client: Amec Foster Wheeler

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	04/13/2016 9:15
Number of Packages:	3	Number of Projects:	1
State/Province of Origin:	GA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Joseph Huber (7831) at 12:16 on 04/13/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.8	DT	Wet	Y	Bagged	N
2	DT146	1.0	DT	Wet	Y	Bagged	N
3	DT146	1.2	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC		Comments
MW-2-041116	12	11	1 extra (BC 08)	Added to COC and analyzed for field filtered dissolved metals per call to Judy Hartness on 4/13/16 @ 1608. KAK/885

2425 New Holland Pike
Lancaster, PA 17605-2425

T : 717-656-2300
F : 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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APPENDIX F

RISK REDUCTION STANDARDS

Table F-1
Summary of Soil RRS

PARAMETER	Type 1 RRS mg/kg	Type 2 RRS DAF of 1 mg/kg	Type 3 RRS Surface mg/kg	Type 3 RRS Subsurface mg/kg	Type 4 RRS IW DAF of 1 mg/kg
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	2.0E+01	9.3E-01	2.0E+01	2.0E+01	4.7E+00
1,1-Dichloroethane	4.0E+02	1.1E+00	4.0E+02	4.0E+02	1.1E+00
2-Butanone	2.0E+02	4.7E-01	2.0E+02	2.0E+02	2.4E+00
Acetone	4.0E+02	1.6E+00	4.0E+02	4.0E+02	9.4E+00
Benzene	5.0E-01	2.8E-03	5.0E-01	5.0E-01	4.5E-03
Chloroethane (Ethyl chloride)	1.7E-01	1.7E+00	1.7E-01	1.7E-01	8.4E+00
cis-1,2-Dichloroethene	7.0E+00	2.1E-02	7.0E+00	7.0E+00	6.0E-02
Cyclohexane	2.0E+01	3.6E+00	2.0E+01	2.0E+01	1.8E+01
Ethylbenzene	7.0E+01	7.8E-01	7.0E+01	7.0E+01	7.8E-01
Methylene Chloride	5.0E-01	1.9E-02	5.0E-01	5.0E-01	1.2E-01
Methylcyclohexane	1.0E-01	3.5E-03	1.0E-01	1.0E-01	3.5E-03
Styrene	1.4E+01	5.6E-01	1.4E+01	1.4E+01	2.9E+00
Tetrachloroethene	5.0E-01	8.6E-03	5.0E-01	5.0E-01	4.4E-02
Toluene	1.0E+02	6.9E-01	1.0E+02	1.0E+02	3.6E+00
Trichloroethene	5.0E-01	1.8E-03	5.0E-01	5.0E-01	1.9E-03
Trichlorofluoromethane	2.0E+02	1.3E+00	2.0E+02	2.0E+02	1.3E+00
Xylenes, mixture	1.0E+03	9.9E+00	1.0E+03	1.0E+03	9.9E+00
SVOCS					
2,4-Dimethylphenol	7.0E+01	8.3E-01	7.0E+01	7.0E+01	2.4E+00
3-Methylphenol	3.8E+00	6.4E-01	3.8E+00	3.8E+00	4.2E+00
4-Chloroaniline	1.0E+01	4.3E-02	1.0E+01	1.0E+01	4.3E-02
4-Methylphenol	3.8E+00	1.3E+00	3.8E+00	3.8E+00	8.2E+00
Acenaphthene	3.0E+02	2.1E+01	3.0E+02	3.0E+02	6.0E+01
Acenaphthylene	1.3E+02	2.1E-02	1.3E+02	1.3E+02	2.1E-02
Acetophenone	4.0E+02	1.2E+00	4.0E+02	4.0E+02	3.1E+00
Anthracene	5.0E+02	1.5E+02	5.0E+02	5.0E+02	1.0E+03
Benzo(a)anthracene	5.0E+00	1.4E-01	5.0E+00	5.0E+00	2.2E-01
Benzo(a)pyrene	1.6E+00	2.4E-01	1.6E+00	1.6E+00	4.6E-01
Benzo(b)fluoranthene	5.0E+00	1.4E+00	5.0E+00	5.0E+00	4.7E+00
Benzo(ghi)perylene	5.0E+02	1.9E+00	5.0E+02	5.0E+02	1.9E+00
Benzo(k)fluoranthene	5.0E+00	1.4E+01	5.0E+00	5.0E+00	4.6E+01
Bis(2-ethylhexyl)phthalate	5.0E+01	1.5E+01	5.0E+01	5.0E+01	4.9E+01
Butyl benzyl phthalate	5.0E+01	6.5E+00	5.0E+01	5.0E+01	2.2E+01
Chrysene	5.0E+00	4.2E+01	5.0E+00	5.0E+00	1.4E+02
Dibenzo(a,h)anthracene	2.0E+00	1.1E+00	5.0E+00	5.0E+00	1.5E+00
Diethyl phthalate	5.0E+02	5.1E+00	5.0E+02	5.0E+02	3.4E+01
Dimethyl phthalate	4.0E+04	1.2E+02	4.0E+04	4.0E+04	1.2E+02
Fluoranthene	5.0E+02	1.1E+02	5.0E+02	5.0E+02	4.5E+02
Fluorene	3.6E+02	1.9E+01	3.6E+02	3.6E+02	8.0E+01
Indeno(1,2,3-cd)pyrene	5.0E+00	4.7E+00	5.0E+00	5.0E+00	1.6E+01
Naphthalene	1.0E+02	6.6E-02	1.0E+02	1.0E+02	6.6E-02
Phenanthrene	1.1E+02	1.9E-01	1.1E+02	1.1E+02	1.9E-01
Phenol	4.0E+02	2.7E+00	4.0E+02	4.0E+02	1.8E+01
Pyrene	5.0E+02	1.1E+02	5.0E+02	5.0E+02	3.3E+02

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LWC 3/30/16

Table F-1
Summary of Soil RRS

PARAMETER	Type 1 RRS mg/kg	Type 2 RRS DAF of 1 mg/kg	Type 3 RRS Surface mg/kg	Type 3 RRS Subsurface mg/kg	Type 4 RRS IW DAF of 1 mg/kg
Metals					
Antimony	4.0E+00	2.8E-01	1.0E+01	1.0E+01	1.8E+00
Arsenic	2.0E+01	2.9E-01	3.8E+01	4.1E+01	2.9E-01
Barium	1.0E+03	1.3E+02	1.0E+03	1.0E+03	8.0E+02
Beryllium	2.0E+00	2.5E+01	3.0E+00	3.0E+00	1.6E+02
Cadmium (Diet)	2.0E+00	5.9E-01	3.9E+01	3.9E+01	3.8E+00
Chromium, Total	1.0E+02	1.9E+00	1.1E+02	1.2E+03	1.9E+00
Chromium III (Insoluble Salts)	5.0E+00	1.2E+05	5.0E+00	5.0E+00	3.1E+06
Chromium VI	3.0E-02	3.3E-02	3.0E-02	3.0E-02	1.1E-01
Cobalt	2.0E+01	2.1E-01	2.5E+01	2.5E+01	1.4E+00
Copper	1.0E+02	4.6E+01	1.5E+03	1.5E+03	1.4E+02
Lead	7.5E+01	1.4E+01	4.0E+02	4.0E+02	1.4E+01
Manganese	2.5E+01	2.4E+01	2.5E+01	2.5E+01	1.6E+02
Mercury (Mercuric Chloride and Inorganic Salts)	5.0E-01	2.4E-01	1.7E+01	1.7E+01	1.6E+00
Nickel Soluble Salts	5.0E+01	2.0E+01	4.2E+02	4.2E+02	1.3E+02
Selenium	2.0E+00	4.1E-01	3.6E+01	3.6E+01	2.7E+00
Silver	2.0E+00	8.5E-01	1.0E+01	1.0E+01	4.3E+00
Thallium (soluble salts)	2.0E+00	1.4E-01	1.0E+01	1.0E+01	1.4E-01
Vanadium	1.0E+02	2.0E+02	1.0E+02	1.0E+02	5.1E+02
Zinc	1.0E+02	2.9E+02	2.8E+03	2.8E+03	1.9E+03
PCBs					
Aroclor-1242	1.6E+00	1.6E-01	1.6E+00	1.6E+00	2.2E-01
Aroclor-1248	1.6E+00	1.5E-01	1.6E+00	1.6E+00	2.2E-01
Aroclor-1254	1.6E+00	2.6E-01	1.6E+00	1.6E+00	3.7E-01
Aroclor-1260	1.6E+00	7.0E-01	1.6E+00	1.6E+00	1.0E+00
Nitroaromatics					
4-Nitrotoluene	1.1E+00	4.9E-02	1.1E+00	1.1E+00	1.7E-01
Petroleum Hydrocarbons - Not Regulated under HSRA					
2-Methylnaphthalene	1.0E+00	3.2E-01	1.0E+00	1.0E+00	2.1E+00

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LWC 3/30/16

Table F-2
Toxicity Values

PARAMETER	Chronic Reference Dose Oral (RfDo) (mg/kg/day)	Chronic Reference Dose Inhalation (RfDi) (mg/kg/day)	Cancer Slope Factor Oral (SFo) (mg/kg/day)-1	Cancer Slope Factor Inhalation (SFi) (mg/kg/day)-1	Weight of Evidence	Source for Chronic RfDs and SFs
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	2.0E+00	1.4E+00	ND	ND	D	IRIS
1,1-Dichloroethane	2.0E-01	ND	5.7E-03	5.6E-03	C	PPRTV, CALEPA
2-Butanone	6.0E-01	1.4E+00	ND	ND	NA	IRIS
Acetone	9.0E-01	8.9E+00	ND	ND	NA	IRIS, ATSDR
Benzene	4.0E-03	8.6E-03	5.5E-02	2.7E-02	A	IRIS
Chloroethane	ND	2.9E+00	ND	ND	NA	IRIS
cis-1,2-Dichloroethene	2.0E-03	ND	ND	ND	D	IRIS
Cyclohexane	ND	1.7E+00	ND	ND	NA	IRIS
Ethylbenzene	1.0E-01	2.9E-01	1.1E-02	8.8E-03	D	CALEPA, IRIS
Methylene Chloride	6.0E-03	1.7E-01	2.0E-03	3.5E-05	B2	IRIS
Methylcyclohexane	ND	ND	ND	ND	ND	IRIS, RSL
Styrene	2.0E-01	2.9E-01	ND	ND	NA	IRIS
Tetrachloroethene	6.0E-03	1.1E-02	2.1E-03	9.1E-04	B	IRIS
Toluene	8.0E-02	1.4E+00	ND	ND	D	IRIS
Trichloroethene	5.0E-04	5.7E-04	4.6E-02	1.4E-02	A	IRIS
Trichlorofluoromethane	3.0E-01	2.0E-01	ND	ND		IRIS, HEAST
Xylenes, mixture	2.0E-01	2.9E-02	ND	ND	NA	IRIS
Semi-volatile Organic Compounds						
2,4-Dimethylphenol	2.0E-02	ND	ND	ND	NA	IRIS
3-Methylphenol	5.0E-02	1.7E-01	ND	ND	C	IRIS, CALEPA
4-Chloroaniline	4.0E-03	ND	2.0E-01	ND		IRIS, PPRTV
4-Methylphenol	1.0E-01	1.7E-01	ND	ND	C	ATSDR, CALEPA
Acenaphthene	6.0E-02	ND	ND	ND	NA	IRIS
Acenaphthylene	ND	ND	ND	ND	D	NA
Acetophenone	1.0E-01	ND	ND	ND	D	IRIS
Anthracene	3.0E-01	ND	ND	ND	D	IRIS
Benzo(a)anthracene	ND	ND	7.3E-01	3.9E-01	B2	IRIS, CALEPA
Benzo(a)pyrene	ND	ND	7.3E+00	3.9E+00	B2	IRIS, CALEPA
Benzo(b)fluoranthene	ND	ND	7.3E-01	3.9E-01	B2	IRIS, CALEPA
Benzo(ghi)perylene	ND	ND	ND	ND	D	IRIS
Benzo(k)fluoranthene	ND	ND	7.3E-02	3.9E-01	B2	IRIS, CALEPA
Bis(2-ethylhexyl)phthalate	2.0E-02	ND	1.4E-02	8.3E-03	B2	IRIS, CALEPA
Butyl benzyl phthalate	2.0E-01	ND	1.9E-03	ND	C	IRIS, PPRTV
Chrysene	ND	ND	7.3E-03	3.9E-02	B2	IRIS, CALEPA
Dibenzo(a,h)anthracene	ND	ND	7.3E+00	4.2E+00	B2	IRIS, CALEPA
Diethyl phthalate	8.0E-01	ND	ND	ND	D	IRIS
Dimethyl phthalate	ND	ND	ND	ND	D	ND
Fluoranthene	4.0E-02	ND	ND	ND	D	IRIS
Fluorene	4.0E-02	ND	ND	ND	D	IRIS
Indeno(1,2,3-cd)pyrene	ND	ND	7.3E-01	3.9E-01	B2	IRIS, CALEPA
Naphthalene	2.0E-02	8.6E-04	ND	1.2E-01	C	IRIS, CALEPA
Phenanthrene	ND	ND	ND	ND	D	NA
Phenol	3.0E-01	5.7E-02	ND	ND	D	IRIS, CALEPA
Pyrene	3.0E-02	ND	ND	ND	D	IRIS
Metals						
Antimony	4.0E-04	ND	ND	ND	NA	IRIS
Arsenic	3.0E-04	4.3E-06	1.5E+00	1.5E+01	A	IRIS, CALEPA
Barium	2.0E-01	1.4E-04	ND	ND	D	IRIS, HEAST
Beryllium	2.0E-03	5.7E-06	ND	8.4E+00	B1	IRIS
Cadmium (Water)	5.0E-04	2.9E-06	ND	6.3E+00	B1	IRIS, ATSDR
Cadmium (Diet)	1.0E-03	2.9E-06	ND	6.3E+00	B1	IRIS, ATSDR
Chromium, Total	3.0E-03	2.9E-05	5.0E-01	2.9E+02	A/D	IRIS, NJ
Chromium III (Insoluble Salts)	1.5E+00	ND	ND	ND	D	IRIS
Chromium VI	3.0E-03	2.9E-05	5.0E-01	2.9E+02	A/D	IRIS, NJ
Cobalt	3.0E-04	1.7E-06	ND	3.2E+01		PPRTV
Copper	4.0E-02	ND	ND	ND	D	HEAST
Lead	ND	ND	ND	ND	B2	NCEA
Manganese	2.4E-02	1.4E-05	ND	ND		IRIS
Mercury (mercuric chloride and inorganic Salts)	3.0E-04	8.6E-05	ND	ND	C	IRIS, RSL

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LWC 3/30/16

Table F-2
Toxicity Values

PARAMETER	Chronic Reference Dose Oral (RfDo) (mg/kg/day)	Chronic Reference Dose Inhalation (RfDi) (mg/kg/day)	Cancer Slope Factor Oral (SFo) (mg/kg/day)-1	Cancer Slope Factor Inhalation (SFi) (mg/kg/day)-1	Weight of Evidence	Source for Chronic RfDs and SFs
Nickel Soluble Salts	2.0E-02	2.6E-05	ND	9.1E-01	NA	IRIS, ATSDR, CALEPA
Selenium	5.0E-03	5.7E-03	ND	ND	D	IRIS, CALEPA
Silver	5.0E-03	ND	ND	ND	D	IRIS
Thallium (soluble salts)	1.0E-05	ND	ND	ND		PPRTV
Vanadium and compounds	5.0E-03	2.9E-05	ND	ND	NA	RSL, ATSDR
Zinc	3.0E-01	ND	ND	ND	D	IRIS
PCBs						
Aroclor-1242	ND	ND	2.0E+00	2.0E+00	B2	IRIS
Aroclor-1248	ND	ND	2.0E+00	2.0E+00	NA	IRIS
Aroclor-1254	2.0E-05	ND	2.0E+00	2.0E+00	NA	IRIS
Aroclor-1260	ND	ND	2.0E+00	2.0E+00	B2	IRIS
Nitroaromatics						
4-Nitrotoluene	4.00E-03	ND	1.6E-02	ND		PPRTV
Petroleum Hydrocarbons - Not Regulated under HSRA						
2-Methylnaphthalene	4.00E-03	ND	ND	ND	NA	IRIS

SOURCES: EPA Regional Screening Level Table (RSL), November 2015.
IRIS Integrated Risk Information System
PPRTV Provisional Peer Reviewed Toxicity Values
CALEPA California Environmental Protection Agency
HEAST Health Exposure Assessment Summary Tables
ATSDR Agency for Toxic Substances and Disease Registry
NJ New Jersey
ND No Data
NA Not Available

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LWC 3/30/16

Table F-3
Type 1 through Type 4 Ground Water RRS, mg/L

Parameter	Chronic Reference Dose Oral (mg/kg/day)	Chronic Reference Dose Inhalation (mg/kg/day)	Cancer Slope Factor Oral (mg/kg/day)-1	Cancer Slope Factor Inhalation (mg/kg/day)-1	Source for Chronic Rfds and CSFs	Volatile? (a)	Type 1/ Type 3 (mg/L)		Type 2 Standard (mg/L) Adult Noncarcinogenic	Type 2 Standard (mg/L) Adult Carcinogenic	Type 2 Standard (mg/L) Child Noncarcinogenic	Type 2 Standard (mg/L) Child Carcinogenic	Type 2 Overall	Overall Residential	Type 4 (mg/L) Industrial Worker Noncarcinogenic	Type 4 (mg/L) Industrial Worker Carcinogenic	Type 4 Overall IW	Overall Nonresidential IW
Volatile Organic Compounds (VOCs)																		
1,1,1-Trichloroethane	2.0E+00	1.4E+00	ND	ND	IRIS	v	2.0E-01		1.1E+01	ND	2.7E+00	ND	2.7E+00	2.7E+00	1.3E+01	ND	1.3E+01	1.3E+01
1,1-Dichloroethane	2.0E-01	ND	5.7E-03	5.6E-03	PPRTV, CALEPA	v	4.0E+00		7.3E+00	3.2E-02	3.1E+00	3.8E-02	3.2E-02	4.0E+00	2.0E+01	4.6E-02	4.6E-02	4.0E+00
2-Butanone	6.0E-01	1.4E+00	ND	ND	IRIS	v	2.0E+00		8.4E+00	ND	2.2E+00	ND	2.2E+00	2.2E+00	1.2E+01	ND	1.2E+01	1.2E+01
Acetone	9.0E-01	8.9E+00	ND	ND	IRIS, ATSDR	v	4.0E+00		2.4E+01	ND	8.0E+00	ND	8.0E+00	8.0E+00	4.6E+01	ND	4.6E+01	4.6E+01
Benzene	4.0E-03	8.6E-03	5.5E-02	2.7E-02	IRIS	v	5.0E-03		5.3E-02	5.5E-03	1.4E-02	7.1E-03	5.5E-03	5.5E-03	7.2E-02	8.8E-03	8.8E-03	8.8E-03
Chloroethane	ND	2.9E+00	ND	ND	IRIS	v	1.0E-03	RL	2.8E+01	ND	6.0E+00	ND	6.0E+00	6.0E+00	3.0E+01	ND	3.0E+01	3.0E+01
cis-1,2-Dichloroethene	2.0E-03	ND	ND	ND	IRIS	v	7.0E-02		7.3E-02	ND	3.1E-02	ND	3.1E-02	7.0E-02	2.0E-01	ND	2.0E-01	2.0E-01
Cyclohexane	ND	1.7E+00	ND	ND	IRIS	v	1.0E-03	RL	1.7E+01	ND	3.5E+00	ND	3.5E+00	3.5E+00	1.7E+01	ND	1.7E+01	1.7E+01
Ethylbenzene	1.0E-01	2.9E-01	1.1E-02	8.8E-03	CALEPA, IRIS	v	7.0E-01		1.6E+00	1.9E-02	4.4E-01	2.4E-02	1.9E-02	7.0E-01	2.3E+00	2.9E-02	2.9E-02	7.0E-01
Methylene Chloride	6.0E-03	1.7E-01	2.0E-03	3.5E-05	IRIS	v	5.0E-03		1.9E-01	4.0E-01	7.4E-02	8.1E-01	7.4E-02	7.4E-02	4.5E-01	1.2E+00	4.5E-01	4.5E-01
Methylcyclohexane	ND	ND	ND	ND	IRIS		1.0E-03	RL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	2.0E-01	2.9E-01	ND	ND	IRIS	v	1.0E-01		2.0E+00	ND	5.1E-01	ND	5.1E-01	5.1E-01	2.6E+00	ND	2.6E+00	2.6E+00
Tetrachloroethene	6.0E-03	1.1E-02	2.1E-03	9.1E-04	IRIS	v	5.0E-03		7.4E-02	1.5E-01	1.9E-02	2.0E-01	1.9E-02	1.9E-02	9.8E-02	2.6E-01	9.8E-02	9.8E-02
Toluene	8.0E-02	1.4E+00	ND	ND	IRIS	v	1.0E+00		2.4E+00	ND	8.8E-01	ND	8.8E-01	1.0E+00	5.2E+00	ND	5.2E+00	5.2E+00
Trichloroethene	5.0E-04	5.7E-04	4.6E-02	1.4E-02	IRIS	v	5.0E-03		4.3E-03	8.6E-03	1.0E-03	1.2E-02	1.0E-03	5.0E-03	5.2E-03	1.5E-02	5.2E-03	5.2E-03
Trichlorofluoromethane	3.0E-01	2.0E-01	ND	ND	IRIS, HEAST	v	2.0E+00		1.7E+00	ND	3.8E-01	ND	3.8E-01	2.0E+00	1.9E+00	ND	1.9E+00	2.0E+00
Xylenes, mixture	2.0E-01	2.9E-02	ND	ND	IRIS	v	1.0E+01		2.7E-01	ND	5.9E-02	ND	5.9E-02	1.0E+01	2.9E-01	ND	2.9E-01	1.0E+01
Semi-volatile Organic Compounds																		
2,4-Dimethylphenol	2.0E-02	ND	ND	ND	IRIS		7.0E-01		7.3E-01	ND	3.1E-01	ND	3.1E-01	7.0E-01	2.0E+00	ND	2.0E+00	2.0E+00
3-Methylphenol	5.0E-02	(a)	ND	ND	IRIS, CALEPA		2.0E-02		1.8E+00	ND	7.8E-01	ND	7.8E-01	7.8E-01	5.1E+00	ND	5.1E+00	5.1E+00
4-Chloroaniline	4.0E-03	ND	2.0E-01	ND	IRIS, PPRTV		1.0E-01		1.5E-01	4.3E-03	6.3E-02	9.1E-03	4.3E-03	1.0E-01	4.1E-01	1.4E-02	1.4E-02	1.0E-01
4-Methylphenol	1.0E-01	(a)	ND	ND	ATSDR, CALEPA		1.0E-02	RL	3.7E+00	ND	1.6E+00	ND	1.6E+00	1.6E+00	1.0E+01	ND	1.0E+01	1.0E+01
Acenaphthene	6.0E-02	ND	ND	ND	IRIS	v	2.0E+00		2.2E+00	ND	9.4E-01	ND	9.4E-01	2.0E+00	6.1E+00	ND	6.1E+00	6.1E+00
Acenaphthylene	ND	ND	ND	ND	NA		1.0E-02	RL	ND	ND	ND	ND	ND	1.0E-02	ND	ND	ND	1.0E-02
Acetophenone	1.0E-01	ND	ND	ND	IRIS	v	4.0E+00		3.7E+00	ND	1.6E+00	ND	1.6E+00	4.0E+00	1.0E+01	ND	1.0E+01	1.0E+01
Anthracene	3.0E-01	ND	ND	ND	IRIS	v	1.0E-02	RL	1.1E+01	ND	4.7E+00	ND	4.7E+00	4.7E+00	3.1E+01	ND	3.1E+01	3.1E+01
Benzo(a)anthracene	ND	ND	7.3E-01	3.9E-01	IRIS, CALEPA	v	1.0E-04		ND	3.9E-04	ND	5.0E-04	3.9E-04	3.9E-04	ND	6.2E-04	6.2E-04	6.2E-04
Benzo(a)pyrene	ND	ND	7.3E+00	(a)	IRIS, CALEPA		2.0E-04		ND	1.2E-04	ND	2.5E-04	1.2E-04	2.0E-04	ND	3.9E-04	3.9E-04	3.9E-04
Benzo(b)fluoranthene	ND	ND	7.3E-01	(a)	IRIS, CALEPA		2.0E-04		ND	1.2E-03	ND	2.5E-03	1.2E-03	1.2E-03	ND	3.9E-03	3.9E-03	3.9E-03
Benzo(ghi)perylene	ND	ND	ND	ND	IRIS		1.0E-02	RL	ND	ND	ND	ND	ND	1.0E-02	ND	ND	ND	1.0E-02
Benzo(k)fluoranthene	ND	ND	7.3E-02	(a)	IRIS, CALEPA		1.0E-04	RL	ND	1.2E-02	ND	2.5E-02	1.2E-02	1.2E-02	ND	3.9E-02	3.9E-02	3.9E-02
Bis(2-ethylhexyl)phthalate	2.0E-02	ND	1.4E-02	(a)	IRIS, CALEPA		2.0E-03		7.3E-01	6.1E-02	3.1E-01	1.3E-01	6.1E-02	6.1E-02	2.0E+00	2.0E-01	2.0E-01	2.0E-01
Butyl benzyl phthalate	2.0E-01	ND	1.9E-03	ND	IRIS, PPRTV		2.0E-03		7.3E+00	4.5E-01	3.1E+00	9.6E-01	4.5E-01	4.5E-01	2.0E+01	1.5E+00	1.5E+00	1.5E+00
Chrysene	ND	ND	7.3E-03	(a)	IRIS, CALEPA		1.0E-02	RL	ND	1.2E-01	ND	2.5E-01	1.2E-01	1.2E-01	ND	3.9E-01	3.9E-01	3.9E-01
Dibenzo(a,h)anthracene	ND	ND	7.3E+00	(a)	IRIS, CALEPA		3.0E-04		ND	1.2E-04	ND	2.5E-04	1.2E-04	3.0E-04	ND	3.9E-04	3.9E-04	3.9E-04
Diethyl phthalate	8.0E-01	ND	ND	ND	IRIS		5.0E+00		2.9E+01	ND	1.3E+01	ND	1.3E+01	1.3E+01	8.2E+01	ND	8.2E+01	8.2E+01
Dimethyl phthalate	ND	ND	ND	ND	ND		4.0E+02		ND	ND	ND	ND	ND	4.0E+02	ND	ND	ND	4.0E+02
Fluoranthene	4.0E-02	ND	ND	ND	IRIS		1.0E+00		1.5E+00	ND	6.3E-01	ND	6.3E-01	1.0E+00	4.1E+00	ND	4.1E+00	4.1E+00
Fluorene	4.0E-02	ND	ND	ND	IRIS	v	1.0E+00		1.5E+00	ND	6.3E-01	ND	6.3E-01	1.0E+00	4.1E+00	ND	4.1E+00	4.1E+00
Indeno(1,2,3-cd)pyrene	ND	ND	7.3E-01	(a)	IRIS, CALEPA		4.0E-04		ND	1.2E-03	ND	2.5E-03	1.2E-03	1.2E-03	ND	3.9E-03	3.9E-03	3.9E-03
Naphthalene	2.0E-02	8.6E-04	ND	1.2E-01	IRIS, CALEPA	v	2.0E-02		8.3E-03	1.9E-03	1.8E-03	2.0E-03	1.8E-03	2.0E-02	8.8E-03	2.4E-03	2.4E-03	2.0E-02
Phenanthrene	ND	ND	ND	ND	NA		1.0E-02	RL	ND	ND	ND	ND	ND	1.0E-02	ND	ND	ND	1.0E-02
Phenol	3.0E-01	(a)	ND	ND	IRIS, CALEPA		4.0E+00		1.1E+01	ND	4.7E+00	ND	4.7E+00	4.7E+00	3.1E+01	ND	3.1E+01	3.1E+01
Pyrene	3.0E-02	ND	ND	ND	IRIS	v	1.0E+00		1.1E+00	ND	4.7E-01	ND	4.7E-01	1.0E+00	3.1E+00	ND	3.1E+00	3.1E+00
Metals																		
Antimony	4.0E-04	ND	ND	ND	IRIS		6.0E-03		1.5E-02	ND	6.3E-03	ND	6.3E-03	6.3E-03	4.1E-02	ND	4.1E-02	4.1E-02
Arsenic	3.0E-04	(a)	1.5E+00	(a)	IRIS, CALEPA		1.0E-02		1.1E-02	5.7E-04	4.7E-03	1.2E-03	5.7E-04	1.0E-02	3.1E-02	1.9E-03	1.9E-03	1.0E-02
Barium	2.0E-01	(a)	ND	ND	IRIS, HEAST		2.0E+00		7.3E+00	ND	3.1E+00	ND	3.1E+00	3.1E+00	2.0E+01	ND	2.0E+01	2.0E+01
Beryllium	2.0E-03	(a)	ND	(a)	IRIS		4.0E-03		7.3E-02	ND	3.1E-02	ND	3.1E-02	3.1E-02	2.0E-01	ND	2.0E-01	2.0E-01
Cadmium (Water)	5.0E-04	(a)	ND	(a)	IRIS, ATSDR		5.0E-03		1.8E-02	ND	7.8E-03	ND	7.8E-03	7.8E-03	5.1E-02	ND	5.1E-02	5.1E-02
Chromium, Total	3.0E-03	(a)	5.0E-01	(a)	IRIS, NJ		1.0E-01		1.1E-01	1.7E-03	4.7E-02	3.7E-03	1.7E-03	1.0E-01	3.1E-01	5.7E-03	5.7E-03	1.0E-01
Chromium III (Insoluble Salts)	1.5E+00	ND	ND	ND	IRIS		5.0E-02	RL	5.5E+01	ND	2.3E+01	ND	2.3E+01	2.3E+01	1.5E+02	ND	1.5E+02	1.5E+02
Chromium VI	3.0E-03	(a)	5.0E-01	(a)	IRIS, NJ		3.0E-04	RL	1.1E-01	1.7E-03	4.7E-02	3.7E-03	1.7E-03	1.7E-03	3.1E-01	5.7E-03	5.7E-03	5.7E-03
Cobalt	3.0E-04	(a)	ND	(a)	PPRTV		1.0E-02		1.1E-02	ND	4.7E-03	ND	4.7E-03	1.0E-02	3.1E-02	ND	3.1E-02	3.1E-02
Copper	4.0E-02	ND	ND	ND	HEAST		1.3E+00		1.5E+00	ND	6.3E-01	ND	6.3E-01	1.3E+00	4.1E+00	ND	4.1E+00	4.1E+00
Lead	ND	ND	ND	ND	NCEA		1.5E-02		ND	ND	ND	ND	ND	1.5E-02	ND	ND	1.5E-02	1.5E-02
Manganese	2.4E-02	1.4E-05	ND	ND	IRIS		2.0E-03	RL	8.8E-01	ND	3.8E-01	ND	3.8E-01	3.8E-01	2.5E+00	ND	2.5E+00	2.5E+00
Mercury (mercuric chloride and inorganic Salts)	3.0E-04	(a)	ND	ND	IRIS, RSL		2.0E-03		1.1E-02	ND	4.7E-03	ND	4.7E-03	4.7E-03	3.1E-02	ND	3.1E-02	3.1E-02
Nickel Soluble Salts	2.0E-02	(a)	ND	(a)	IRIS, ATSDR, CALEPA		1.0E-01		7.3E-01	ND	3.1E-01	ND	3.1E-01	3.1E-01	2.0E+00	ND	2.0E+00	2.0E+00
Selenium	5.0E-03	(a)	ND	ND	IRIS, CALEPA		5.0E-02		1.8E-01	ND	7.8E-02	ND	7.8E-02	7.8E-02	5.1E-01	ND	5.1E-01	5.1E-01
Silver	5.0E-03	ND	ND	ND	IRIS		1.0E-01		1.8E-01	ND	7.8E-02	ND	7.8E-02	1.0E-01	5.1E-01	ND	5.1E-01	5.1E-01
Thallium (soluble salts)	1.0E-05	ND	ND	ND	PPRTV		2.0E-03		3.7E-04	ND	1.6E-04	ND	1.6E-04	2.0E-03	1.0E-03	ND	1.0E-03	2.0E-03
Vanadium and compounds	5.0E-03	(a)	ND	ND	RSL, ATSDR		2.0E-01		1.8E-01	ND	7.8E-02	ND	7.8E-02	2.0E-01	5.1E-01	ND	5.1E-01	5.1E-01
Zinc	3.0E-01	ND	ND	ND	IRIS		2.0E+00		1.1E+01	ND	4.7E+00	ND	4.7E+00	4.7E+00	3.1E+01	ND	3.1E+01	3.1E+01
PCBs																		
Aroclor-1242	ND	ND	2.0E+00	(a)	IRIS		1.0E-03		ND	4.3E-04	ND	9.1E-04	4.3E-04	1.0E-03	ND	1.4E-03	1.4E-03	1.4E-03
Aroclor-1248	ND	ND	2.0E+00	(a)	IRIS		1.0E-03		ND	4.3E-04	ND	9.1E-04	4.3E-04	1.0E-03	ND	1.4E-03	1.4E-03	1.4E-03
Aroclor-1254	2.0E-05	ND	2.0E+00	(a)	IRIS		1.0E-03		7.3E-04	4.3E-04	3.1E-04	9.1E-04	3.1E-04	1.0E-03	2.0E-03	1.4E-03	1.4E-03	1.4E-03
Aroclor-1260	ND	ND	2.0E+00	(a)	IRIS		1.0E-03		ND	4.3E-04	ND	9.1E-04	4.3E-04	1.0E-03	ND	1.4E-03	1.4E-03	1.4E-03
Nitroaromatics																		
4-Nitrotoluene	4.0E-03	ND	1.6E-02	ND	PPRTV		2.0E-04		1.5E-01	5.3E-02	6.3E-02	1.1E-01	5.3E-02	5.3E-02	4.1E-01	1.8E-01	1.8E-01	1.8E-01
Petroleum Hydrocarbons - Not Regulated under HSRA																		
2-Methylnaphthalene	4.0E-03	ND	ND	ND	IRIS	v	1.0E-02		1.5E-01	ND	6.3E-02	ND	6.3E-02	6.3E-02	4.1E-01	ND	4.1E-01	4.1E-01

SOURCES: EPA Regional Screening Level Table (RSL), January 2015.
IRIS Integrated Risk Information System
PPRTV Provisional Peer Reviewed Toxicity Values
CALEPA California Environmental Protection Agency
HEAST Health Exposure Assessment Summary Tables
ATSDR Agency for Toxic Substances and Disease Registry
ND No Data
NA Not Available
DL Detection limit
(a) Compound is not volatile in water.

Equation 2 (Noncarcinogens):

$$C = \frac{THI \times BW \times AT \times 365 days/year}{EF \times ED \times [(1/RfDi \times K \times IRa) + (1/RfDo \times IRw)]}$$

Equation 1 (Carcinogens):

$$C = \frac{TR \times BW \times AT \times 365 days/year}{EF \times ED \times [(SFi \times K \times IRa) + (SFo \times IRw)]}$$

Where:	Type 2 Adult	Type 2 Parameters Chilld	Type 4 Industrial Worker Parameters
THI = Target Hazard Index =	1	1	1
BW = Body Weight =	70 kg	15 kg	70 kg
AT = Averaging Time =	30 years (noncarc.); 70 (carci	6 years (noncarc.); 70 (carcinogens)	25 years for noncarcinogens; 70 years for carc.
EF = Exposure Frequency =	350 days/year	350 days/year	250 day/year
ED = Exposure Duration =	30 years	6 years	25 year
RfDi = Inhalation Reference Dose =	Chemical Specific	Chemical Specific	Chemical Specific
K = Volatilization Factor = 0.0005 x 1000 L/m3 =	0.5 L/m3	0.5 L/m3	0.5 L/m3
IRa = Inhalation Rate for Air =	15 m3/day	15 m3/day	20 m3/day
RfDo = Oral Reference Dose =	Chemical Specific	Chemical Specific	Chemical Specific
IRw = Ingestion Rate for Water =	2 L/day	1 L/day	1 L/day
TR = Target Risk =	0.00001	0.00001	0.00001
SFo = Oral Cancer Slope Factor =	Chemical Specific	Chemical Specific	Chemical Specific
SFi = Inhalation Cancer Slope Factor =	Chemical Specific	Chemical Specific	Chemical Specific

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Table F-4
Type 1 and Type 3 Soil RRS, mg/kg

PARAMETER	Volatilization Factor (m^3/kg)	HSRA Type I Soil Criteria (mg/kg) (a)	HSRA Appendix I Value (mg/kg) (b)	Type I Groundwater RRS (mg/L) (c)		Type 1 GW RRS x 100 (mg/kg)	Number 1 (mg/kg) (d)	Risk-Based Residential Type 1 Noncarcinogenic (mg/kg) (e)	Risk-Based Residential Type 1 Carcinogenic (mg/kg) (f)	Risk-Based Soil Type 1 RRS (mg/kg) (g)	Overall Type 1 RRS (mg/kg) (h)	Risk-Based Nonresidential Type 3 Noncarcinogenic (mg/kg) (e)	Risk-Based Nonresidential Type 3 Carcinogenic (mg/kg) (f)	Risk-Based Soil Type 3 RRS (mg/kg) (g)	Subsurface Soil Type 3 RRS (mg/kg) (i)	Surface Soil Type 3 RRS (mg/kg) (j)
Volatile Organic Compounds (VOCs)																
1,1,1-Trichloroethane	1.5E+03	ND	5.4E+00	2.0E-01		2.0E+01	2.0E+01	1.0E+04	ND	1.0E+04	2.0E+01	1.1E+04	ND	1.1E+04	2.0E+01	2.0E+01
1,1-Dichloroethane	2.1E+03	ND	3.0E-02	4.0E+00		4.0E+02	4.0E+02	1.3E+05	4.2E+02	4.2E+02	4.0E+02	4.1E+05	5.4E+02	5.4E+02	4.0E+02	4.0E+02
2-Butanone	7.8E+03	ND	7.9E-01	2.0E+00		2.0E+02	2.0E+02	4.7E+04	ND	4.7E+04	2.0E+02	5.4E+04	ND	5.4E+04	2.0E+02	2.0E+02
Acetone	6.7E+03	ND	2.7E+00	4.0E+00		4.0E+02	4.0E+02	1.9E+05	ND	1.9E+05	4.0E+02	2.6E+05	ND	2.6E+05	4.0E+02	4.0E+02
Benzene	4.5E+03	ND	2.0E-02	5.0E-03		5.0E-01	5.0E-01	1.8E+02	1.8E+01	1.8E+01	5.0E-01	1.9E+02	2.3E+01	2.3E+01	5.0E-01	5.0E-01
Chloroethane	1.1E+03	ND	1.7E-01	1.0E-03	RL	1.0E-01	1.7E-01	1.5E+04	ND	1.5E+04	1.7E-01	1.6E+04	ND	1.6E+04	1.7E-01	1.7E-01
cis-1,2-Dichloroethene	2.7E+03	ND	5.3E-01	7.0E-02		7.0E+00	7.0E+00	1.3E+03	ND	1.3E+03	7.0E+00	4.1E+03	ND	4.1E+03	7.0E+00	7.0E+00
Cyclohexane	7.8E+02	ND	2.0E+01	1.0E-03	RL	1.0E-01	2.0E+01	6.4E+03	ND	6.4E+03	2.0E+01	6.7E+03	ND	6.7E+03	2.0E+01	2.0E+01
Ethylbenzene	7.6E+03	ND	2.0E+01	7.0E-01		7.0E+01	7.0E+01	9.2E+03	9.2E+01	9.2E+01	7.0E+01	1.1E+04	1.2E+02	1.2E+02	7.0E+01	7.0E+01
Methylene Chloride	2.1E+03	ND	8.0E-02	5.0E-03		5.0E-01	5.0E-01	1.2E+03	3.6E+03	1.2E+03	5.0E-01	1.6E+03	6.6E+03	1.6E+03	5.0E-01	5.0E-01
Methylcyclohexane	NA	ND	NL	1.0E-03	RL	1.0E-01	1.0E-01	ND	ND	ND	1.0E-01	ND	ND	ND	1.0E-01	1.0E-01
Styrene	1.3E+04	ND	1.4E+01	1.0E-01		1.0E+01	1.4E+01	1.6E+04	ND	1.6E+04	1.4E+01	1.8E+04	ND	1.8E+04	1.4E+01	1.4E+01
Tetrachloroethene	2.6E+03	ND	1.8E-01	5.0E-03		5.0E-01	5.0E-01	1.4E+02	3.2E+02	1.4E+02	5.0E-01	1.5E+02	4.1E+02	1.5E+02	5.0E-01	5.0E-01
Toluene	5.6E+03	ND	1.4E+01	1.0E+00		1.0E+02	1.0E+02	2.2E+04	ND	2.2E+04	1.0E+02	3.2E+04	ND	3.2E+04	1.0E+02	1.0E+02
Trichloroethene	2.4E+03	ND	1.3E-01	5.0E-03		5.0E-01	5.0E-01	6.6E+00	1.9E+01	6.6E+00	5.0E-01	7.1E+00	2.4E+01	7.1E+00	5.0E-01	5.0E-01
Trichlorofluoromethane	5.1E+02	ND	7.0E-01	2.0E+00		2.0E+02	2.0E+02	4.9E+02	ND	4.9E+02	2.0E+02	5.2E+02	ND	5.2E+02	2.0E+02	2.0E+02
Xylenes, mixture	7.7E+03	ND	2.0E+01	1.0E+01		1.0E+03	1.0E+03	1.1E+03	ND	1.1E+03	1.0E+03	1.1E+03	ND	1.1E+03	1.0E+03	1.0E+03
Semi-volatile Organic Compounds																
2,4-Dimethylphenol	NA	ND	1.5E+00	7.0E-01		7.0E+01	7.0E+01	1.3E+04	ND	1.3E+04	7.0E+01	4.1E+04	ND	4.1E+04	7.0E+01	7.0E+01
3-Methylphenol	NA	ND	3.8E+00	2.0E-02	RL	2.0E+00	3.8E+00	3.2E+04	ND	3.2E+04	3.8E+00	1.0E+05	ND	1.0E+05	3.8E+00	3.8E+00
4-Chloroaniline	NA	ND	3.3E-01	1.0E-01		1.0E+01	1.0E+01	2.6E+03	7.5E+01	7.5E+01	1.0E+01	8.2E+03	2.9E+02	2.9E+02	1.0E+01	1.0E+01
4-Methylphenol	NA	ND	3.8E+00	2.0E-02	RL	2.0E+00	3.8E+00	6.4E+04	ND	6.4E+04	3.8E+00	2.0E+05	ND	2.0E+05	3.8E+00	3.8E+00
Acenaphthene	2.0E+05	ND	3.0E+02	2.0E+00		2.0E+02	3.0E+02	3.8E+04	ND	3.8E+04	3.0E+02	1.2E+05	ND	1.2E+05	3.0E+02	3.0E+02
Acenaphthylene	NA	ND	1.3E+02	1.0E-02	RL	1.0E+00	1.3E+02	ND	ND	ND	1.3E+02	ND	ND	ND	1.3E+02	1.3E+02
Acetophenone	7.4E+04	ND	2.6E-01	4.0E+00		4.0E+02	4.0E+02	6.4E+04	ND	6.4E+04	4.0E+02	2.0E+05	ND	2.0E+05	4.0E+02	4.0E+02
Anthracene	7.3E+05	ND	5.0E+02	1.0E-02	RL	1.0E+00	5.0E+02	1.9E+05	ND	1.9E+05	5.0E+02	6.1E+05	ND	6.1E+05	5.0E+02	5.0E+02
Benzo(a)anthracene	6.3E+06	ND	5.0E+00	1.0E-04		1.0E-02	5.0E+00	ND	2.0E+01	2.0E+01	5.0E+00	ND	7.8E+01	7.8E+01	5.0E+00	5.0E+00
Benzo(a)pyrene	NA	ND	1.6E+00	2.0E-04		2.0E-02	1.6E+00	ND	2.0E+00	2.0E+00	1.6E+00	ND	7.8E+00	7.8E+00	1.6E+00	1.6E+00
Benzo(b)fluoranthene	NA	ND	5.0E+00	2.0E-04		2.0E-02	5.0E+00	ND	2.0E+01	2.0E+01	5.0E+00	ND	7.8E+01	7.8E+01	5.0E+00	5.0E+00
Benzo(ghi)perylene	NA	ND	5.0E+02	1.0E-02	RL	1.0E+00	5.0E+02	ND	ND	ND	5.0E+02	ND	ND	ND	5.0E+02	5.0E+02
Benzo(k)fluoranthene	NA	ND	5.0E+00	1.0E-04	RL	1.0E-02	5.0E+00	ND	2.0E+02	2.0E+02	5.0E+00	ND	7.8E+02	7.8E+02	5.0E+00	5.0E+00
Bis(2-ethylhexyl)phthalate	NA	ND	5.0E+01	2.0E-03	RL	2.0E-01	5.0E+01	1.3E+04	1.1E+03	1.1E+03	5.0E+01	4.1E+04	4.1E+03	4.1E+03	5.0E+01	5.0E+01
Butyl benzyl phthalate	NA	ND	5.0E+01	2.0E-03	RL	2.0E-01	5.0E+01	1.3E+05	7.9E+04	7.9E+04	5.0E+01	4.1E+05	3.0E+05	3.0E+05	5.0E+01	5.0E+01
Chrysene	NA	ND	5.0E+00	1.0E-02	RL	1.0E+00	5.0E+00	ND	2.0E+03	2.0E+03	5.0E+00	ND	7.8E+03	7.8E+03	5.0E+00	5.0E+00
Dibenzo(a,h)anthracene	NA	ND	5.0E+00	3.0E-04		3.0E-02	5.0E+00	ND	2.0E+00	2.0E+00	2.0E+00	ND	7.8E+00	7.8E+00	5.0E+00	5.0E+00
Diethyl phthalate	NA	ND	7.4E-01	5.0E+00		5.0E+02	5.0E+02	5.1E+05	ND	5.1E+05	5.0E+02	1.6E+06	ND	1.6E+06	5.0E+02	5.0E+02
Dimethyl phthalate	NA	ND	6.6E-01	4.0E+02		4.0E+04	4.0E+04	ND	ND	ND	4.0E+04	ND	ND	ND	4.0E+04	4.0E+04
Fluoranthene	NA	ND	5.0E+02	1.0E+00		1.0E+02	5.0E+02	2.6E+04	ND	2.6E+04	5.0E+02	8.2E+04	ND	8.2E+04	5.0E+02	5.0E+02
Fluorene	3.9E+05	ND	3.6E+02	1.0E+00		1.0E+02	3.6E+02	2.6E+04	ND	2.6E+04	3.6E+02	8.2E+04	ND	8.2E+04	3.6E+02	3.6E+02
Indeno(1,2,3-cd)pyrene	NA	ND	5.0E+00	4.0E-04		4.0E-02	5.0E+00	ND	2.0E+01	2.0E+01	5.0E+00	ND	7.8E+01	7.8E+01	5.0E+00	5.0E+00
Naphthalene	6.4E+04	ND	1.0E+02	2.0E-02		2.0E+00	1.0E+02	2.6E+02	6.1E+02	2.6E+02	1.0E+02	2.8E+02	7.6E+02	2.8E+02	1.0E+02	1.0E+02
Phenanthrene	NA	ND	1.1E+02	1.0E-02	RL	1.0E+00	1.1E+02	ND	ND	ND	1.1E+02	ND	ND	ND	1.1E+02	1.1E+02
Phenol	NA	ND	5.0E+01	4.0E+00		4.0E+02	4.0E+02	1.9E+05	ND	1.9E+05	4.0E+02	6.1E+05	ND	6.1E+05	4.0E+02	4.0E+02
Pyrene	3.4E+06	ND	5.0E+02	1.0E+00		1.0E+02	5.0E+02	1.9E+04	ND	1.9E+04	5.0E+02	6.1E+04	ND	6.1E+04	5.0E+02	5.0E+02
Metals																
Antimony	NA	4.0E+00	1.0E+01	6.0E-03		6.0E-01	1.0E+01	2.6E+02	ND	2.6E+02	4.0E+00	8.2E+02	ND	8.2E+02	1.0E+01	1.0E+01
Arsenic	NA	2.0E+01	4.1E+01	1.0E-02		1.0E+00	4.1E+01	1.9E+02	1.0E+01	1.0E+01	2.0E+01	6.1E+02	3.8E+01	3.8E+01	4.1E+01	3.8E+01
Barium	NA	1.0E+03	5.0E+02	2.0E+00		2.0E+02	5.0E+02	1.2E+05	ND	1.2E+05	1.0E+03	3.6E+05	ND	3.6E+05	1.0E+03	1.0E+03
Beryllium	NA	2.0E+00	3.0E+00	4.0E-03		4.0E-01	3.0E+00	1.3E+03	6.3E+04	1.3E+03	2.0E+00	4.0E+03	7.9E+04	4.0E+03	3.0E+00	3.0E+00
Cadmium (Diet)	NA	2.0E+00	3.9E+01	5.0E-03		5.0E-01	3.9E+01	6.3E+02	8.3E+04	6.3E+02	2.0E+00	2.0E+03	1.1E+05	2.0E+03	3.9E+01	3.9E+01
Chromium, Total	NA	1.0E+02	1.2E+03	1.0E-01		1.0E+01	1.2E+03	1.9E+03	2.9E+01	2.9E+01	1.0E+02	6.1E+03	1.1E+02	1.1E+02	1.2E+03	1.1E+02
Chromium III (Insoluble Salts)	NA	NA	NA	5.0E-02	RL	5.0E+00	5.0E+00	9.6E+05	ND	9.6E+05	5.0E+00	3.1E+06	ND	3.1E+06	5.0E+00	5.0E+00
Chromium VI	NA	NA	NA	3.0E-04	RL	3.0E-02	3.0E-02	1.9E+03	2.9E+01	2.9E+01	3.0E-02	6.1E+03	1.1E+02	1.1E+02	3.0E-02	3.0E-02
Cobalt	NA	2.0E+01	25 / BKG	1.0E-02	NR	NR	2.5E+01	1.9E+02	1.7E+04	1.9E+02	2.0E+01	6.0E+02	2.1E+04	6.0E+02	2.5E+01	2.5E+01
Copper	NA	1.0E+02	1.5E+03	1.3E+00		1.3E+02	1.5E+03	2.6E+04	ND	2.6E+04	1.0E+02	8.2E+04	ND	8.2E+04	1.5E+03	1.5E+03
Lead	NA	7.5E+01	4.0E+02	1.5E-02		1.5E+00	4.0E+02	ND	ND	ND	7.5E+01	ND	ND	4.0E+02	4.0E+02	4.0E+02
Manganese	NA	NA	2.5E+01	2.0E-03	RL	2.0E-01	2.5E+01	1.5E+04	ND	1.5E+04	2.5E+01	4.3E+04	ND	4.3E+04	2.5E+01	2.5E+01
Mercury (Mercuric Chloride and Inorganic Salts)	NA	5.0E-01	1.7E+01	2.0E-03		2.0E-01	1.7E+01	1.9E+02	ND	1.9E+02	5.0E-01	6.1E+02	ND	6.1E+02	1.7E+01	1.7E+01
Nickel Soluble Salts	NA	5.0E+01	4.2E+02	1.0E-01		1.0E+01	4.2E+02	1.3E+04	5.8E+05	1.3E+04	5.0E+01	3.8E+04	7.3E+05	3.8E+04	4.2E+02	4.2E+02
Selenium	NA	2.0E+00	3.6E+01	5.0E-02		5.0E+00	3.6E+01	3.2E+03	ND	3.2E+03	2.0E+00	1.0E+04	ND	1.0E+04	3.6E+01	3.6E+01
Silver	NA	2.0E+00	1.0E+01	1.0E-01		1.0E+01	1.0E+01	3.2E+03	ND	3.2E+03	2.0E+00	1.0E+04	ND	1.0E+04	1.0E+01	1.0E+01
Thallium (soluble salts)	NA	2.0E+00	1.0E+01	2.0E-03		2.0E-01	1.0E+01	6.4E+00	ND	6.4E+00	2.0E+00	2.0E+01	ND	2.0E+01	1.0E+01	1.0E+01
Vanadium	NA	1.0E+02	100 / NR	2.0E-01		2.0E+01	1.0E+02	3.E+03	ND	3.2E+03	1.0E+02	1.0E+04	ND	1.0E+04	1.0E+02	1.0E+02
Zinc	NA	1.0E+02	2.8E+03	2.0E+00		2.0E+02	2.8E+03	1.9E+05	ND	1.9E+05	1.0E+02	6.1E+05	ND	6.1E+05	2.8E+03	2.8E+03
PCBs																
Aroclor-1242	8.2E+05	ND	1.6E+00	1.0E-03	RL	1.0E-01	1.6E+00	ND	7.5E+00	7.5E+00	1.6E+00	ND	2.9E+01	2.9E+01	1.6E+00	1.6E+00
Aroclor-1248	8.7E+05	ND	1.6E+00	1.0E-03	RL	1.0E-01	1.6E+00	ND	7.5E+00	7.5E+00	1.6E+00	ND	2.9E+01	2.9E+01	1.6E+00	1.6E+00

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LWC 3/30/16

Table F-4
Type 1 and Type 3 Soil RRS, mg/kg

PARAMETER	Volatilization Factor (m^3/kg)	HSRA Type I Soil Criteria (mg/kg) (a)	HSRA Appendix I Value (mg/kg) (b)	Type I Groundwater RRS (mg/L) (c)		Type 1 GW RRS x 100 (mg/kg)	Number 1 (mg/kg) (d)	Risk-Based Residential Type 1 Noncarcinogenic (mg/kg) (e)	Risk-Based Residential Type 1 Carcinogenic (mg/kg) (f)	Risk-Based Soil Type 1 RRS (mg/kg) (g)	Overall Type 1 RRS (mg/kg) (h)	Risk-Based Nonresidential Type 3 Noncarcinogenic (mg/kg) (e)	Risk-Based Nonresidential Type 3 Carcinogenic (mg/kg) (f)	Risk-Based Soil Type 3 RRS (mg/kg) (g)	Subsurface Soil Type 3 RRS (mg/kg) (i)	Surface Soil Type 3 RRS (mg/kg) (j)
Aroclor-1254	1.2E+06	ND	1.6E+00	1.0E-03	RL	1.0E-01	1.6E+00	1.3E+01	7.5E+00	7.5E+00	1.6E+00	4.1E+01	2.9E+01	2.9E+01	1.6E+00	1.6E+00
Aroclor-1260	1.8E+06	ND	1.6E+00	1.0E-03	RL	1.0E-01	1.6E+00	ND	7.5E+00	7.5E+00	1.6E+00	ND	2.9E+01	2.9E+01	1.6E+00	1.6E+00
Nitroaromatics																
4-Nitrotoluene	NA	ND	1.1E+00	2.0E-04	RL	2.0E-02	1.1E+00	3.E+03	9.3E+02	9.3E+02	1.1E+00	8.2E+03	3.6E+03	3.6E+03	1.1E+00	1.1E+00
Petroleum Hydrocarbons - Not Regulated under HSRA																
2-Methylnaphthalene	8.0E+04	ND	NL	1.0E-02	RL	1.0E+00	1.0E+00	2.6E+03	ND	2.6E+03	1.0E+00	8.2E+03	ND	8.2E+03	1.0E+00	1.0E+00

Notes:

(a) Table 2, Appendix III of HSRA regulations
(b) Appendix I of HSRA regulations. Value is the soil concentration that triggers notification requirements.
(c) Table 1, Appendix III of HSRA regulations. For those substances not listed, reporting limit used as the Type I groundwater RRS.
(d) Value is the highest of the Appendix I value and the groundwater RRS x 100.

(e) $$\frac{THI \times BW \times ATn \times 365 days/year}{EF \times ED \times [(1/RfDi \times (1/VF + 1/PEF) \times InhR) + (1/RfDo \times Irs \times CF)]}$$

(f) $$\frac{TR \times BW \times ATc \times 365 days/year}{EF \times ED \times [(SFi \times (1/VF + 1/PEF) \times InhR) + (SFo \times Irs \times CF)]}$$

(g) Minimum of noncarcinogenic and carcinogenic concentrations.
(h) Minimum concentration of Number 1 and Type 1 RRS.
(i) Maximum concentration of Number 1 and HSRA Type 1 Soil Criteria.
(j) Minimum concentration of the risk-based soil Type 3 RRS and the subsurface soil Type 3 RRS.
RL Reporting Limit
RRS Risk Reduction Standard
GW Groundwater
ND Not Determined - Can not be calculated

Exposure Parameters	Residential Type 1	Nonresidential Type 3	Unit
Total Hazard Index (THI)	1	1	unitless
Target Risk (TR)	1.E-05	1.E-05	unitless
Target Risk (TR) WOE - C	1.E-04	1.E-04	
Body Weight (BW)	70	70	kg
Averaging Time, Carcinogen (ATc)	70	70	yrs
Averaging Time, Noncarcinogen (ATn)	30	25	yrs
Exposure Duration (ED)	30	25	yrs
Exposure Frequency (EF)	350	250	days/yr
Soil Ingestion Rate (IRs)	114	50	mg/day
Air Inhalation Rate (InhR)	15	20	m^3/day
Particulate Emission Factor (PEF)	4.63E+09	4.63E+09	m^3/kg
Conversion Factor (CF)	1.E-06	1.E-06	kg/mg
Volatilization Factor (VF)	Chemical-specific	Chemical-specific	m^3/kg

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LWC 3/30/16

Table F-5
Soil to Ground water Leachability

SS DF = 1
SS foc = 0.002

Parameter	K_d (L/kg) (1)	K_{oc} (L/kg) (2)	Source	$Ø_w$	Øa	H' (unitless)	Øw+Øa*H'/P_b	Groundwater Type 1/3 RRS (C_w, mg/L)	C_w*SS DF	Pathway Type 1/3 C_s (mg/kg)	Groundwater Type 2 RRS (C_w, mg/L)	C_w*SS DF	Pathway Type 2 C_s (mg/kg)	Residential Soil Leaching Criteria (3)	Industrial Worker Groundwater Type 4 RRS (C_w, mg/L)	C_w*SS DF	Pathway Type 4 C_s (mg/kg)	Industrial Worker Soil Leaching Criteria (4)
Volatile Organic Compounds (VOCs)																		
1,1,1-Trichloroethane	8.8E-02	4.4E+01	RSL	3.0E-01	1.3E-01	7.0E-01	2.6E-01	2.0E-01	2.0E-01	7.0E-02	2.7E+00	2.7E+00	9.3E-01	9.3E-01	1.3E+01	1.3E+01	4.7E+00	4.7E+00
1,1-Dichloroethane	6.4E-02	3.2E+01	RSL	3.0E-01	1.3E-01	2.3E-01	2.2E-01	4.0E+00	4.0E+00	1.1E+00	3.2E-02	3.2E-02	9.0E-03	1.1E+00	4.6E-02	4.6E-02	1.3E-02	1.1E+00
2-Butanone	9.0E-03	4.5E+00	RSL	3.0E-01	1.3E-01	2.3E-03	2.0E-01	2.0E+00	2.0E+00	4.2E-01	2.2E+00	2.2E+00	4.7E-01	4.7E-01	1.2E+01	1.2E+01	2.4E+00	2.4E+00
Acetone	4.7E-03	2.4E+00	RSL	3.0E-01	1.3E-01	1.4E-03	2.0E-01	4.0E+00	4.0E+00	8.2E-01	8.0E+00	8.0E+00	1.6E+00	1.6E+00	4.6E+01	4.6E+01	9.4E+00	9.4E+00
Benzene	2.9E-01	1.5E+02	RSL	3.0E-01	1.3E-01	2.3E-01	2.2E-01	5.0E-03	5.0E-03	2.6E-03	5.5E-03	5.5E-03	2.8E-03	2.8E-03	8.8E-03	8.8E-03	4.5E-03	4.5E-03
Chloroethane	4.3E-02	2.2E+01	RSL	3.0E-01	1.3E-01	4.5E-01	2.4E-01	1.0E-03	1.0E-03	2.8E-04	6.0E+00	6.0E+00	1.7E+00	1.7E+00	3.0E+01	3.0E+01	8.4E+00	8.4E+00
cis-1,2-Dichloroethene	7.9E-02	4.0E+01	RSL	3.0E-01	1.3E-01	1.7E-01	2.1E-01	7.0E-02	7.0E-02	2.1E-02	3.1E-02	3.1E-02	9.2E-03	2.1E-02	2.0E-01	2.0E-01	6.0E-02	6.0E-02
Cyclohexane	2.9E-01	1.5E+02	RSL	3.0E-01	1.3E-01	6.1E+00	7.3E-01	1.0E-03	1.0E-03	1.0E-03	3.5E+00	3.5E+00	3.6E+00	3.6E+00	1.7E+01	1.7E+01	1.8E+01	1.8E+01
Ethylbenzene	8.9E-01	4.5E+02	RSL	3.0E-01	1.3E-01	3.2E-01	2.3E-01	7.0E-01	7.0E-01	7.8E-01	1.9E-02	1.9E-02	2.2E-02	7.8E-01	2.9E-02	2.9E-02	3.3E-02	7.8E-01
Methylene Chloride	4.3E-02	2.2E+01	RSL	3.0E-01	1.3E-01	1.3E-01	2.1E-01	5.0E-03	5.0E-03	1.3E-03	7.4E-02	7.4E-02	1.9E-02	1.9E-02	4.5E-01	4.5E-01	1.2E-01	1.2E-01
Methylcyclohexane	1.7E+00	8.7E+02	HSDB	3.0E-01	1.3E-01	1.8E+01	1.7E+00	1.0E-03	1.0E-03	3.5E-03	ND	ND	ND	3.5E-03	ND	ND	ND	3.5E-03
Styrene	8.9E-01	4.5E+02	RSL	3.0E-01	1.3E-01	1.1E-01	2.1E-01	1.0E-01	1.0E-01	1.1E-01	5.1E-01	5.1E-01	5.6E-01	5.6E-01	2.6E+00	2.6E+00	2.9E+00	2.9E+00
Tetrachloroethene	1.9E-01	9.5E+01	RSL	3.0E-01	1.3E-01	7.2E-01	2.6E-01	5.0E-03	5.0E-03	2.3E-03	1.9E-02	1.9E-02	8.6E-03	8.6E-03	9.8E-02	9.8E-02	4.4E-02	4.4E-02
Toluene	4.7E-01	2.3E+02	RSL	3.0E-01	1.3E-01	2.7E-01	2.2E-01	1.0E+00	1.0E+00	6.9E-01	8.8E-01	8.8E-01	6.1E-01	6.9E-01	5.2E+00	5.2E+00	3.6E+00	3.6E+00
Trichloroethene	1.2E-01	6.1E+01	RSL	3.0E-01	1.3E-01	4.0E-01	2.3E-01	5.0E-03	5.0E-03	1.8E-03	1.0E-03	1.0E-03	3.7E-04	1.8E-03	5.2E-03	5.2E-03	1.9E-03	1.9E-03
Trichlorofluoromethane	8.8E-02	4.4E+01	RSL	3.0E-01	1.3E-01	4.0E+00	5.5E-01	2.0E+00	2.0E+00	1.3E+00	3.8E-01	3.8E-01	2.4E-01	1.3E+00	1.9E+00	1.9E+00	1.2E+00	1.3E+00
Xylenes, mixture	7.7E-01	3.8E+02	RSL	3.0E-01	1.3E-01	2.7E-01	2.2E-01	1.0E+01	1.0E+01	9.9E+00	5.9E-02	5.9E-02	5.9E-02	9.9E+00	2.9E-01	2.9E-01	2.9E-01	9.9E+00
Semi-volatile Organic Compounds																		
2,4-Dimethylphenol	9.8E-01	4.9E+02	RSL	3.0E-01	1.3E-01	3.9E-04	2.0E-01	7.0E-01	7.0E-01	8.3E-01	3.1E-01	3.1E-01	3.7E-01	8.3E-01	2.0E+00	2.0E+00	2.4E+00	2.4E+00
3-Methylphenol	6.1E-01	3.1E+02	RSL	3.0E-01	1.3E-01	4.9E-05	2.0E-01	2.0E-02	2.0E-02	1.6E-02	7.8E-01	7.8E-01	6.4E-01	6.4E-01	5.1E+00	5.1E+00	4.2E+00	4.2E+00
4-Chloroaniline	2.3E-01	1.1E+02	RSL	3.0E-01	1.3E-01	4.7E-05	2.0E-01	1.0E-01	1.0E-01	4.3E-02	4.3E-03	4.3E-03	1.8E-03	4.3E-02	1.4E-02	1.4E-02	6.1E-03	4.3E-02
4-Methylphenol	6.0E-01	3.0E+02	RSL	3.0E-01	1.3E-01	4.9E-05	2.0E-01	1.0E-02	1.0E-02	8.0E-03	1.6E+00	1.6E+00	1.3E+00	1.3E+00	1.0E+01	1.0E+01	8.2E+00	8.2E+00
Acenaphthene	1.0E+01	5.0E+03	RSL	3.0E-01	1.3E-01	7.5E-03	2.0E-01	2.0E+00	2.0E+00	2.1E+01	9.4E-01	9.4E-01	9.6E+00	2.1E+01	6.1E+00	6.1E+00	6.3E+01	6.3E+01
Acenaphthylene	1.9E+00	9.5E+02	HSDB	3.0E-01	1.3E-01	4.6E-04	2.0E-01	1.0E-02	1.0E-02	2.1E-02	ND	ND	NA	2.1E-02	ND	ND	NA	2.1E-02
Acetophenone	1.0E-01	5.2E+01	RSL	3.0E-01	1.3E-01	4.3E-04	2.0E-01	4.0E+00	4.0E+00	1.2E+00	1.6E+00	1.6E+00	4.8E-01	1.2E+00	1.0E+01	1.0E+01	3.1E+00	3.1E+00
Anthracene	3.3E+01	1.6E+04	RSL	3.0E-01	1.3E-01	2.3E-03	2.0E-01	1.0E-02	1.0E-02	3.3E-01	4.7E+00	4.7E+00	1.5E+02	1.5E+02	3.1E+01	3.1E+01	1.0E+03	1.0E+03
Benzo(a)anthracene	3.5E+02	1.8E+05	RSL	3.0E-01	1.3E-01	4.9E-04	2.0E-01	1.0E-04	1.0E-04	3.5E-02	3.9E-04	3.9E-04	1.4E-01	1.4E-01	6.2E-04	6.2E-04	2.2E-01	2.2E-01
Benzo(a)pyrene	1.2E+03	5.9E+05	RSL	3.0E-01	1.3E-01	1.9E-05	2.0E-01	2.0E-04	2.0E-04	2.4E-01	1.2E-04	1.2E-04	1.4E-01	2.4E-01	3.9E-04	3.9E-04	4.6E-01	4.6E-01
Benzo(b)fluoranthene	1.2E+03	6.0E+05	RSL	3.0E-01	1.3E-01	2.7E-05	2.0E-01	2.0E-04	2.0E-04	2.4E-01	1.2E-03	1.2E-03	1.4E+00	1.4E+00	3.9E-03	3.9E-03	4.7E+00	4.7E+00
Benzo(ghi)perylene	1.9E+02	9.6E+04	HSDB	3.0E-01	1.3E-01	1.1E-05	2.0E-01	1.0E-02	1.0E-02	1.9E+00	ND	ND	NA	1.9E+00	ND	ND	NA	1.9E+00
Benzo(k)fluoranthene	1.2E+03	5.9E+05	RSL	3.0E-01	1.3E-01	2.4E-05	2.0E-01	1.0E-04	1.0E-04	1.2E-01	1.2E-02	1.2E-02	1.4E+01	1.4E+01	3.9E-02	3.9E-02	4.6E+01	4.6E+01
Bis(2-ethylhexyl)phthalate	2.4E+02	1.2E+05	RSL	3.0E-01	1.3E-01	1.1E-05	2.0E-01	2.0E-03	2.0E-03	4.8E-01	6.1E-02	6.1E-02	1.5E+01	1.5E+01	2.0E-01	2.0E-01	4.9E+01	4.9E+01
Butyl benzyl phthalate	1.4E+01	7.2E+03	RSL	3.0E-01	1.3E-01	5.2E-05	2.0E-01	2.0E-03	2.0E-03	2.9E-02	4.5E-01	4.5E-01	6.5E+00	6.5E+00	1.5E+00	1.5E+00	2.2E+01	2.2E+01
Chrysene	3.6E+02	1.8E+05	RSL	3.0E-01	1.3E-01	2.1E-04	2.0E-01	1.0E-02	1.0E-02	3.6E+00	1.2E-01	1.2E-01	4.2E+01	4.2E+01	3.9E-01	3.9E-01	1.4E+02	1.4E+02
Dibenzo(a,h)anthracene	3.8E+03	1.9E+06	RSL	3.0E-01	1.3E-01	5.8E-06	2.0E-01	3.0E-04	3.0E-04	1.1E+00	1.2E-04	1.2E-04	4.5E-01	1.1E+00	3.9E-04	3.9E-04	1.5E+00	1.5E+00
Diethyl phthalate	2.1E-01	1.0E+02	RSL	3.0E-01	1.3E-01	2.5E-05	2.0E-01	5.0E+00	5.0E+00	2.0E+00	1.3E+01	1.3E+01	5.1E+00	5.1E+00	8.2E+01	8.2E+01	3.4E+01	3.4E+01
Dimethyl phthalate	1.1E-01	5.5E+01	HSDB	3.0E-01	1.3E-01	8.2E-06	2.0E-01	4.0E+02	4.0E+02	1.2E+02	ND	ND	NA	1.2E+02	ND	ND	NA	1.2E+02
Fluoranthene	1.1E+02	5.5E+04	RSL	3.0E-01	1.3E-01	3.6E-04	2.0E-01	1.0E+00	1.0E+00	1.1E+02	6.3E-01	6.3E-01	7.0E+01	1.1E+02	4.1E+00	4.1E+00	4.5E+02	4.5E+02
Fluorene	1.8E+01	9.2E+03	RSL	3.0E-01	1.3E-01	3.9E-03	2.0E-01	1.0E+00	1.0E+00	1.9E+01	6.3E-01	6.3E-01	1.2E+01	1.9E+01	4.1E+00	4.1E+00	7.6E+01	7.6E+01
Indeno(1,2,3-cd)pyrene	4.0E+03	2.0E+06	RSL	3.0E-01	1.3E-01	1.4E-05	2.0E-01	4.0E-04	4.0E-04	1.6E+00	1.2E-03	1.2E-03	4.7E+00	4.7E+00	3.9E-03	3.9E-03	1.6E+01	1.6E+01
Naphthalene	3.1E+00	1.5E+03	RSL	3.0E-01	1.3E-01	1.8E-02	2.0E-01	2.0E-02	2.0E-02	6.6E-02	1.8E-03	1.8E-03	5.9E-03	6.6E-02	2.4E-03	2.4E-03	7.8E-03	6.6E-02
Phenanthrene	1.8E+01	9.2E+03	HSDB	3.0E-01	1.3E-01	1.7E-03	2.0E-01	1.0E-02	1.0E-02	1.9E-01	ND	ND	NA	1.9E-01	ND	ND	NA	1.9E-01
Phenol	3.7E-01	1.9E+02	RSL	3.0E-01	1.3E-01	1.4E-05	2.0E-01	4.0E+00	4.0E+00	2.3E+00	4.7E+00	4.7E+00	2.7E+00	2.7E+00	3.1E+01	3.1E+01	1.8E+01	1.8E+01
Pyrene	1.1E+02	5.4E+04	RSL	3.0E-01	1.3E-01	4.9E-04	2.0E-01	1.0E+00	1.0E+00	1.1E+02	4.7E-01	4.7E-01	5.1E+01	1.1E+02	3.1E+00	3.1E+00	3.3E+02	3.3E+02
Metals																		
Antimony	4.5E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	6.0E-03	6.0E-03	2.7E-01	6.3E-03	6.3E-03	2.8E-01	2.8E-01	4.1E-02	4.1E-02	1.8E+00	1.8E+00
Arsenic	2.9E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	1.0E-02	1.0E-02	2.9E-01	5.7E-04	5.7E-04	1.7E-02	2.9E-01	1.9E-03	1.9E-03	5.6E-02	2.9E-01
Barium	4.1E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	2.0E+00	2.0E+00	8.2E+01	3.1E+00	3.1E+00	1.3E+02	1.3E+02	2.0E+01	2.0E+01	8.4E+02	8.4E+02
Beryllium	7.9E+02		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	4.0E-03	4.0E-03	3.2E+00	3.1E-02	3.1E-02	2.5E+01	2.5E+01	2.0E-01	2.0E-01	1.6E+02	1.6E+02
Cadmium	7.5E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	5.0E-03	5.0E-03	3.8E-01	7.8E-03	7.8E-03	5.9E-01	5.9E-01	5.1E-02	5.1E-02	3.8E+00	3.8E+00
Chromium, Total	1.9E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	1.0E-01	1.0E-01	1.9E+00	1.7E-03	1.7E-03	3.3E-02	1.9E+00	5.7E-03	5.7E-03	1.1E-01	1.9E+00
Chromium III (Insoluble Salts)	1.8E+06		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	5.0E-02	5.0E-02	9.0E+04	2.3E+01	2.3E+01	4.2E+07	4.2E+07	1.5E+02	1.5E+02	2.8E+08	2.8E+08
Chromium VI	1.9E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	3.0E-04	3.0E-04	5.8E-03	1.7E-03	1.7E-03	3.3E-02	3.3E-02	5.7E-03	5.7E-03	1.1E-01	1.1E-01
Cobalt	4.5E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	1.0E-02	NR	ND	4.7E-03	4.7E-03	2.1E-01	2.1E-01	3.1E-02	3.1E-02	1.4E+00	1.4E+00
Copper	3.5E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	1.3E+00	1.3E+00	4.6E+01	6.3E-01	6.3E-01	2.2E+01	4.6E+01	4.1E+00	4.1E+00	1.4E+02	1.4E+02
Lead	9.0E+02		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	1.5E-02	1.5E-02	1.4E+01	ND	ND	NA	1.4E+01	1.5E-02	1.5E-02	1.4E+01	1.4E+01
Manganese	6.5E+01	--	RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	2.0E-03	2.0E-03	1.3E-01	3.8E-01	3.8E-01	2.4E+01	2.4E+01	2.5E+00	2.5E+00	1.6E+02	1.6E+02
Mercury (mercuric chloride and inorganic Salts)	5.2E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	2.0E-03	2.0E-03	1.0E-01	4.7E-03	4.7E-03	2.4E-01	2.4E-01	3.1E-02	3.1E-02	1.6E+00	1.6E+00
Nickel Soluble Salts	6.5E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	1.0E-01	1.0E-01	6.5E+00	3.1E-01	3.1E-01	2.0E+01	2.0E+01	2.0E+00	2.0E+00	1.3E+02	1.3E+02
Selenium	5.0E+00		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	5.0E-02	5.0E-02	2.6E-01	7.8E-02	7.8E-02	4.1E-01	4.1E-01	5.1E-01	5.1E-01	2.7E+00	2.7E+00
Silver	8.3E+00		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	1.0E-01	1.0E-01	8.5E-01	7.8E-02	7.8E-02	6.6E-01	8.5E-01	5.1E-01	5.1E-01	4.3E+00	4.3E+00
Thallium (soluble salts)	7.1E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	2.0E-03	2.0E-03	1.4E-01	1.6E-04	1.6E-04	1.1E-02	1.4E-01	1.0E-03	1.0E-03	7.3E-02	1.4E-01
Vanadium and compounds	1.0E+03		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	2.0E-01	2.0E-01	2.0E+02	7.8E-02	7.8E-02	7.8E+01	2.0E+02	5.1E-01	5.1E-01	5.1E+02	5.1E+02
Zinc	6.2E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	2.0E+00	2.0E+00	1.2E+02	4.7E+00	4.7E+00	2.9E+02	2.9E+02	3.1E+01	3.1E+01	1.9E+03	1.9E+03
PCBs																		
Aroclor-1242	1.6E+02	7.8E+04	RSL	3.0E-01	1.3E-01	7.8E-03	2.0E-01	1.0E-03	1.0E-03	1.6E-01	4.3E-04	4.3E-04	6.7E-02	1.6E-01	1.4E-03	1.4E-03	2.2E-01	2.2E-01
Aroclor-1248	1.5E+02	7.7E+04	RSL	3.0E-01	1.3E-01	1.8E-02	2.0E-01	1.0E-03	1.0E-03	1.5E-01	4.3E-04	4.3E-04	6.5E-02	1.5E-01	1.4E-03	1.4E-03	2.2E-01	2.2E-01
Aroclor-1254	2.6E+02	1.3E+05	RSL	3.0E-01	1.3E-01	1.2E-02	2.0E-01	1.0E-03	1.0E-03	2.6E-01	3.1E-04	3.1E-04	8.2E-02	2.6E-01	1.4E-03	1.4E-03	3.7E-01	3.7E-01
Aroclor-1260	7.0E+02	3.5E+05	RSL	3.0E-01	1.3E-01	1.4E-02	2.0E-01	1.0E-03	1.0E-03	7.0E-01	4.3E-04	4.3E-04	3.0E-01	7.0E-01	1.4E-03	1.4E-03	1.0E+00	1.0E+00
Nitroaromatics																		
4-Nitrotoluene	7.3E-01	3.63E+02	RSL	3.0E-01	1.3E-01	2.30E-04	2.0E-01	2.0E-04	2.0E-04	1.9E-04	5.3E-02	5.3E-02	4.9E-02	4.9E-02	1.8E-01	1.8E-01	1.7E-01	1.7E-01
Petroleum Hydrocarbons - Not Regulated under HSRA																		
2-Methylnaphthalene	5.0E+00	2.5E+03	RSL	3.0E-01	1.3E-01	2.1E-02	2.0E-01	1.0E-02	1.0E-02	5.2E-02	6.3E-02	6.3E-02	3.2E-01	3.2E-01	4.1E-01	4.1E-01	2.1E+00	2.1E+00

NA Not Available
ND No Data Available
RSL EPA Regional Screening Level
HSDB Toxnet Hazardous Substances Data Base
SS DF Site-specific Dilution Factor
SS foc Site-specific fraction organic carbon
1. Kd values for inorganic compounds taken from USEPA Regional Screening Table User's Guide.
2. Koc values taken from the EPA RSL Chemical-specific Parameters Supporting Table November 2015 unless otherwise noted. $K_d = K_{oc} * f_{oc}$.

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Table F-5
Soil to Ground water Leachability

SS DF = 1
SS foc = 0.002

Parameter	K_d (L/kg) (1)	K_{oc} (L/kg) (2)	Source	$Ø_w$	Øa	H' (unitless)	Øw+Øa*H'/P_b	Groundwater Type 1/3 RRS (C_w, mg/L)	C_w*SS DF	Pathway Type 1/3 C_s (mg/kg)	Groundwater Type 2 RRS (C_w, mg/L)	C_w*SS DF	Pathway Type 2 C_s (mg/kg)	Residential Soil Leaching Criteria (3)	Industrial Worker Groundwater Type 4 RRS (C_w, mg/L)	C_w*SS DF	Pathway Type 4 C_s (mg/kg)	Industrial Worker Soil Leaching Criteria (4)

3. Residential leaching value is the higher of the values based on the Type 1 and Type 2 groundwater RRS.
4. Non-residential leaching value is the higher of the values based on Type 3 and Type 4 groundwater RRS.

$Ø_w$ Water-filled soil porosity = 0.3 (L/L)
$Ø_a$ Air-filled soil porosity = 0.13 (L/L)
H' Dimensionless Henry Law Constant (HLC x 41) (unitless)
Þb Dry soil bulk density = 1.5 kg/L
RRS Risk Reduction Standard
C_w Target Leachate Concentration (mg/L)
C_s Screening Level in soil (mg/kg)

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Table F-6
Type 2 Soil RRS, mg/kg

PARAMETER	Volatilization Factor (m^3/kg)	Residential Leaching DAF=1 (mg/kg)	Risk-Based Residential Child Noncarcinogenic (mg/kg) (a)	Risk-Based Residential Child Carcinogenic (mg/kg) (b)	Risk-Based Residential Adult Noncarcinogenic (mg/kg) (a)	Risk-Based Residential Adult Carcinogenic (mg/kg) (b)	Risk-Based Soil Type 2 RRS (mg/kg) (c)	Overall Type 2 RRS Leaching DAF=1 (mg/kg) (d)
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	1.5E+03	9.3E-01	2.2E+03	ND	7.9E+03	ND	2.2E+03	9.3E-01
1,1-Dichloroethane	2.1E+03	1.1E+00	1.6E+04	4.5E+01	1.5E+05	3.2E+01	3.2E+01	1.1E+00
2-Butanone	7.8E+03	4.7E-01	9.2E+03	ND	3.7E+04	ND	9.2E+03	4.7E-01
Acetone	6.7E+03	1.6E+00	3.3E+04	ND	1.6E+05	ND	3.3E+04	1.6E+00
Benzene	4.5E+03	2.8E-03	3.6E+01	1.8E+01	1.4E+02	1.4E+01	1.4E+01	2.8E-03
Chloroethane (Ethyl chloride)	1.1E+03	1.7E+00	3.2E+03	ND	1.1E+04	ND	3.2E+03	1.7E+00
cis-1,2-Dichloroethene	2.7E+03	2.1E-02	1.6E+02	ND	1.5E+03	ND	1.6E+02	2.1E-02
Cyclohexane	7.8E+02	3.6E+00	1.4E+03	ND	4.8E+03	ND	1.4E+03	3.6E+00
Ethylbenzene	7.6E+03	7.8E-01	1.8E+03	9.4E+01	7.3E+03	7.1E+01	7.1E+01	7.8E-01
Methylene Chloride	2.1E+03	1.9E-02	2.1E+02	2.8E+03	1.0E+03	3.2E+03	2.1E+02	1.9E-02
Methylcyclohexane	NA	3.5E-03	ND	ND	ND	ND	ND	3.5E-03
Styrene	1.3E+04	5.6E-01	3.1E+03	ND	1.2E+04	ND	3.1E+03	5.6E-01
Tetrachloroethene	2.6E+03	8.6E-03	2.9E+01	3.3E+02	1.1E+02	2.4E+02	2.9E+01	8.6E-03
Toluene	5.6E+03	6.9E-01	3.6E+03	ND	1.9E+04	ND	3.6E+03	6.9E-01
Trichloroethene	2.4E+03	1.8E-03	1.4E+00	1.9E+01	5.0E+00	1.4E+01	1.4E+00	1.8E-03
Trichlorofluoromethane	5.1E+02	1.3E+00	1.1E+02	ND	3.7E+02	ND	1.1E+02	1.3E+00
Xylenes, mixture	7.7E+03	9.9E+00	2.3E+02	ND	8.1E+02	ND	2.3E+02	9.9E+00
SVOCS								
2,4-Dimethylphenol	NA	8.3E-01	1.6E+03	ND	1.5E+04	ND	1.6E+03	8.3E-01
3-Methylphenol	NA	6.4E-01	3.9E+03	ND	3.6E+04	ND	3.9E+03	6.4E-01
4-Chloroaniline	NA	4.3E-02	3.1E+02	4.6E+01	2.9E+03	8.5E+01	4.6E+01	4.3E-02
4-Methylphenol	NA	1.3E+00	7.8E+03	ND	7.3E+04	ND	7.8E+03	1.3E+00
Acenaphthene	2.0E+05	2.1E+01	4.7E+03	ND	4.4E+04	ND	4.7E+03	2.1E+01
Acenaphthylene	NA	2.1E-02	ND	ND	ND	ND	ND	2.1E-02
Acetophenone	7.4E+04	1.2E+00	7.8E+03	ND	7.3E+04	ND	7.8E+03	1.2E+00
Anthracene	7.3E+05	1.5E+02	2.3E+04	ND	2.2E+05	ND	2.3E+04	1.5E+02
Benzo(a)anthracene	6.3E+06	1.4E-01	ND	1.2E+01	ND	2.3E+01	1.2E+01	1.4E-01
Benzo(a)pyrene	NA	2.4E-01	ND	1.2E+00	ND	2.3E+00	1.2E+00	2.4E-01
Benzo(b)fluoranthene	NA	1.4E+00	ND	1.2E+01	ND	2.3E+01	1.2E+01	1.4E+00
Benzo(ghi)perylene	NA	1.9E+00	ND	ND	ND	ND	ND	1.9E+00
Benzo(k)fluoranthene	NA	1.4E+01	ND	1.2E+02	ND	2.3E+02	1.2E+02	1.4E+01
Bis(2-ethylhexyl)phthalate	NA	1.5E+01	1.6E+03	6.5E+02	1.5E+04	1.2E+03	6.5E+02	1.5E+01
Butyl benzyl phthalate	NA	6.5E+00	1.6E+04	4.8E+03	1.5E+05	9.0E+03	4.8E+03	6.5E+00
Chrysene	NA	4.2E+01	ND	1.2E+03	ND	2.3E+03	1.2E+03	4.2E+01
Dibenzo(a,h)anthracene	NA	1.1E+00	ND	1.2E+00	ND	2.3E+00	1.2E+00	1.1E+00
Diethyl phthalate	NA	5.1E+00	6.3E+04	ND	5.8E+05	ND	6.3E+04	5.1E+00
Dimethyl phthalate	NA	1.2E+02	ND	ND	ND	ND	ND	1.2E+02
Fluoranthene	NA	1.1E+02	3.1E+03	ND	2.9E+04	ND	3.1E+03	1.1E+02
Fluorene	3.9E+05	1.9E+01	3.1E+03	ND	2.9E+04	ND	3.1E+03	1.9E+01
Indeno(1,2,3-cd)pyrene	NA	4.7E+00	ND	1.2E+01	ND	2.3E+01	1.2E+01	4.7E+00
Naphthalene	6.4E+04	6.6E-02	5.5E+01	1.1E+01	2.0E+02	4.6E+02	1.1E+01	6.6E-02
Phenanthrene	NA	1.9E-01	ND	ND	ND	ND	ND	1.9E-01
Phenol	NA	2.7E+00	2.3E+04	ND	2.2E+05	ND	2.3E+04	2.7E+00
Pyrene	3.4E+06	1.1E+02	2.3E+03	ND	2.2E+04	ND	2.3E+03	1.1E+02
Metals								
Antimony	NA	2.8E-01	3.1E+01	ND	2.9E+02	ND	3.1E+01	2.8E-01
Arsenic	NA	2.9E-01	2.3E+01	6.1E+00	2.2E+02	1.1E+01	6.1E+00	2.9E-01
Barium	NA	1.3E+02	1.5E+04	ND	1.4E+05	ND	1.5E+04	1.3E+02
Beryllium	NA	2.5E+01	1.6E+02	6.7E+04	1.4E+03	4.7E+04	1.6E+02	2.5E+01
Cadmium (Diet)	NA	5.9E-01	7.8E+01	8.9E+04	7.2E+02	6.3E+04	7.8E+01	5.9E-01
Chromium, Total	NA	1.9E+00	2.3E+02	1.8E+01	2.2E+03	3.3E+01	1.8E+01	1.9E+00
Chromium III (Insoluble Salts)	NA	4.2E+07	1.2E+05	ND	1.1E+06	ND	1.2E+05	1.2E+05
Chromium VI	NA	3.3E-02	2.3E+02	1.8E+01	2.2E+03	3.3E+01	1.8E+01	3.3E-02
Cobalt	NA	2.1E-01	2.3E+01	1.8E+04	2.2E+02	1.3E+04	2.3E+01	2.1E-01
Copper	NA	4.6E+01	3.1E+03	ND	2.9E+04	ND	3.1E+03	4.6E+01
Lead	NA	1.4E+01	4.2E+02	ND	ND	ND	4.2E+02	1.4E+01
Manganese	NA	2.4E+01	1.8E+03	ND	1.6E+04	ND	1.8E+03	2.4E+01
Mercury (Mercuric Chloride and Inorganic Salts)	NA	2.4E-01	2.3E+01	ND	2.2E+02	ND	2.3E+01	2.4E-01
Nickel Soluble Salts	NA	2.0E+01	1.5E+03	6.2E+05	1.4E+04	4.3E+05	1.5E+03	2.0E+01
Selenium	NA	4.1E-01	3.9E+02	ND	3.6E+03	ND	3.9E+02	4.1E-01
Silver	NA	8.5E-01	3.9E+02	ND	3.7E+03	ND	3.9E+02	8.5E-01
Thallium (soluble salts)	NA	1.4E-01	7.8E-01	ND	7.3E+00	ND	7.8E-01	1.4E-01
Vanadium	NA	2.0E+02	3.9E+02	ND	3.6E+03	ND	3.9E+02	2.0E+02
Zinc	NA	2.9E+02	2.3E+04	ND	2.2E+05	ND	2.3E+04	2.9E+02
PCBs								
Aroclor-1242	8.2E+05	1.6E-01	ND	4.6E+00	ND	8.5E+00	4.6E+00	1.6E-01
Aroclor-1248	8.7E+05	1.5E-01	ND	4.6E+00	ND	8.5E+00	4.6E+00	1.5E-01
Aroclor-1254	1.2E+06	2.6E-01	1.6E+00	4.6E+00	1.5E+01	8.5E+00	1.6E+00	2.6E-01
Aroclor-1260	1.8E+06	7.0E-01	ND	4.6E+00	ND	8.5E+00	4.6E+00	7.0E-01
Nitroaromatics								
4-Nitrotoluene	NA	4.9E-02	3.1E+02	5.7E+02	2.9E+03	1.1E+03	3.1E+02	4.9E-02
Petroleum Hydrocarbons - Not Regulated under HSRA								
2-Methylnaphthalene	8.0E+04	3.2E-01	3.1E+02	ND	2.9E+03	ND	3.1E+02	3.2E-01

Notes:
RRS Risk Reduction Standard
ND Not Determined - Can not be calculated

(a) $$\frac{THI \times BW \times ATn \times 365 days/year}{EF \times ED \times [(1/RfDi \times (1/VF + 1/PEF) \times InhR) + (1/RfDo \times Irs \times CF)]}$$

(b) $$\frac{TR \times BW \times ATc \times 365 days/year}{EF \times ED \times [(SFi \times (1/VF + 1/PEF) \times InhR) + (SFo \times Irs \times CF)]}$$

(c) Minimum of noncarcinogenic and carcinogenic concentrations.
(d) Minimum concentration of Leaching Value and Risk-based Value.

Exposure Parameters	Residential Child Type 2	Residential Adult Type 2
Total Hazard Index (THI)	1	1
Target Risk (TR)	1.E-05	1.E-05
Body Weight (BW)	15	70
Averaging Time, Carcinogen (ATc)	70	70
Averaging Time, Noncarcinogen (ATn)	6	30
Exposure Duration (ED)	6	30
Exposure Frequency (EF)	350	350
Soil Ingestion Rate (IRs)	200	100
Air Inhalation Rate (InhR)	15	20
Particulate Emission Factor (PEF)	4.63E+09	4.63E+09
Conversion Factor (CF)	1.E-06	1.E-06
Volatilization Factor (VF)	Chemical-specific	Chemical-specific

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Table F-7
Type 4 Soil RRS, mg/kg
Default Industrial Worker

PARAMETER	Volatilization Factor (m^3/kg)	Nonresidential Leaching Leaching DAF=1 (mg/kg)	Risk-Based Industrial Worker Noncarcinogenic (mg/kg) (a)	Risk-Based Industrial Worker Carcinogenic (mg/kg) (b)	Risk-Based Soil IW Type 4 RRS (mg/kg) (c)	Overall IW Type 4 RRS Leaching DAF=1 (mg/kg) (d)
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	1.5E+03	4.7E+00	1.1E+04	ND	1.1E+04	4.7E+00
1,1-Dichloroethane	2.1E+03	1.1E+00	4.1E+05	5.4E+01	5.4E+01	1.1E+00
2-Butanone	7.8E+03	2.4E+00	5.4E+04	ND	5.4E+04	2.4E+00
Acetone	6.7E+03	9.4E+00	2.6E+05	ND	2.6E+05	9.4E+00
Benzene	4.5E+03	4.5E-03	1.9E+02	2.3E+01	2.3E+01	4.5E-03
Chloroethane (Ethyl chloride)	1.1E+03	8.4E+00	1.6E+04	ND	1.6E+04	8.4E+00
cis-1,2-Dichloroethene	2.7E+03	6.0E-02	4.1E+03	ND	4.1E+03	6.0E-02
Cyclohexane	7.8E+02	1.8E+01	6.7E+03	ND	6.7E+03	1.8E+01
Ethylbenzene	7.6E+03	7.8E-01	1.1E+04	1.2E+02	1.2E+02	7.8E-01
Methylene Chloride	2.1E+03	1.2E-01	1.6E+03	6.6E+03	1.6E+03	1.2E-01
Methylcyclohexane	NA	3.5E-03	ND	ND	ND	3.5E-03
Styrene	1.3E+04	2.9E+00	1.8E+04	ND	1.8E+04	2.9E+00
Tetrachloroethene	2.6E+03	4.4E-02	1.5E+02	4.1E+02	1.5E+02	4.4E-02
Toluene	5.6E+03	3.6E+00	3.2E+04	ND	3.2E+04	3.6E+00
Trichloroethene	2.4E+03	1.9E-03	7.1E+00	2.4E+01	7.1E+00	1.9E-03
Trichlorofluoromethane	5.1E+02	1.3E+00	5.2E+02	ND	5.2E+02	1.3E+00
Xylenes, mixture	7.7E+03	9.9E+00	1.1E+03	ND	1.1E+03	9.9E+00
SVOCS						
2,4-Dimethylphenol	NA	2.4E+00	4.1E+04	ND	4.1E+04	2.4E+00
3-Methylphenol	NA	4.2E+00	1.0E+05	ND	1.0E+05	4.2E+00
4-Chloroaniline	NA	4.3E-02	8.2E+03	2.9E+02	2.9E+02	4.3E-02
4-Methylphenol	NA	8.2E+00	2.0E+05	ND	2.0E+05	8.2E+00
Acenaphthene	2.0E+05	6.3E+01	1.2E+05	ND	1.2E+05	6.3E+01
Acenaphthylene	NA	2.1E-02	ND	ND	ND	2.1E-02
Acetophenone	7.4E+04	3.1E+00	2.0E+05	ND	2.0E+05	3.1E+00
Anthracene	7.3E+05	1.0E+03	6.1E+05	ND	6.1E+05	1.0E+03
Benzo(a)anthracene	6.3E+06	2.2E-01	ND	7.8E+01	7.8E+01	2.2E-01
Benzo(a)pyrene	NA	4.6E-01	ND	7.8E+00	7.8E+00	4.6E-01
Benzo(b)fluoranthene	NA	4.7E+00	ND	7.8E+01	7.8E+01	4.7E+00
Benzo(ghi)perylene	NA	1.9E+00	ND	ND	ND	1.9E+00
Benzo(k)fluoranthene	NA	4.6E+01	ND	7.8E+02	7.8E+02	4.6E+01
Bis(2-ethylhexyl)phthalate	NA	4.9E+01	4.1E+04	4.1E+03	4.1E+03	4.9E+01
Butyl benzyl phthalate	NA	2.2E+01	4.1E+05	3.0E+04	3.0E+04	2.2E+01
Chrysene	NA	1.4E+02	ND	7.8E+03	7.8E+03	1.4E+02
Dibenzo(a,h)anthracene	NA	1.5E+00	ND	7.8E+00	7.8E+00	1.5E+00
Diethyl phthalate	NA	3.4E+01	1.6E+06	ND	1.6E+06	3.4E+01
Dimethyl phthalate	NA	1.2E+02	ND	ND	ND	1.2E+02
Fluoranthene	NA	4.5E+02	8.2E+04	ND	8.2E+04	4.5E+02
Fluorene	3.9E+05	7.6E+01	8.2E+04	ND	8.2E+04	7.6E+01
Indeno(1,2,3-cd)pyrene	NA	1.6E+01	ND	7.8E+01	7.8E+01	1.6E+01
Naphthalene	6.4E+04	6.6E-02	2.8E+02	1.3E+01	1.3E+01	6.6E-02
Phenanthrene	NA	1.9E-01	ND	ND	ND	1.9E-01
Phenol	NA	1.8E+01	6.1E+05	ND	6.1E+05	1.8E+01
Pyrene	3.4E+06	3.3E+02	6.1E+04	ND	6.1E+04	3.3E+02
Metals						
Antimony	NA	1.8E+00	8.2E+02	ND	8.2E+02	1.8E+00
Arsenic	NA	2.9E-01	6.1E+02	3.8E+01	3.8E+01	2.9E-01
Barium	NA	8.4E+02	3.6E+05	ND	3.6E+05	8.4E+02
Beryllium	NA	1.6E+02	4.0E+03	7.9E+04	4.0E+03	1.6E+02
Cadmium (Diet)	NA	3.8E+00	2.0E+03	1.1E+05	2.0E+03	3.8E+00
Chromium, Total	NA	1.9E+00	6.1E+03	1.1E+02	1.1E+02	1.9E+00
Chromium III (Insoluble Salts)	NA	2.8E+08	3.1E+06	ND	3.1E+06	3.1E+06
Chromium VI	NA	1.1E-01	6.1E+03	1.1E+02	1.1E+02	1.1E-01
Cobalt	NA	1.4E+00	6.0E+02	2.1E+04	6.0E+02	1.4E+00
Copper	NA	1.4E+02	8.2E+04	ND	8.2E+04	1.4E+02
Lead	NA	1.4E+01	1.3E+03	ND	1.3E+03	1.4E+01
Manganese	NA	1.6E+02	4.3E+04	ND	4.3E+04	1.6E+02
Mercury (Mercuric Chloride and Inorganic Salts)	NA	1.6E+00	6.1E+02	ND	6.1E+02	1.6E+00
Nickel Soluble Salts	NA	1.3E+02	3.8E+04	7.3E+05	3.8E+04	1.3E+02
Selenium	NA	2.7E+00	1.0E+04	ND	1.0E+04	2.7E+00
Silver	NA	4.3E+00	1.0E+04	ND	1.0E+04	4.3E+00
Thallium (soluble salts)	NA	1.4E-01	2.0E+01	ND	2.0E+01	1.4E-01
Vanadium	NA	5.1E+02	1.0E+04	ND	1.0E+04	5.1E+02
Zinc	NA	1.9E+03	6.1E+05	ND	6.1E+05	1.9E+03
PCBs						
Aroclor-1242	8.2E+05	2.2E-01	ND	2.9E+01	2.9E+01	2.2E-01
Aroclor-1248	8.7E+05	2.2E-01	ND	2.9E+01	2.9E+01	2.2E-01
Aroclor-1254	1.2E+06	3.7E-01	4.1E+01	2.9E+01	2.9E+01	3.7E-01
Aroclor-1260	1.8E+06	1.0E+00	ND	2.9E+01	2.9E+01	1.0E+00
Nitroaromatics						
4-Nitrotoluene	NA	1.7E-01	8.2E+03	3.6E+03	3.6E+03	1.7E-01
Petroleum Hydrocarbons - Not Regulated under HSRA						
2-Methylnaphthalene	8.0E+04	2.1E+00	8.2E+03	ND	8.2E+03	2.1E+00

Notes:
RRS Risk Reduction Standard
ND Not Determined - Can not be calculated

(a) $$\frac{THI \times BW \times ATn \times 365 days/year}{EF \times ED \times [(1/RfDi \times (1/VF + 1/PEF) \times InhR) + (1/RfDo \times Irs \times CF)]}$$

(b) $$\frac{TR \times BW \times ATc \times 365 days/year}{EF \times ED \times [(SFi \times (1/VF + 1/PEF) \times InhR) + (SFo \times Irs \times CF)]}$$

(c) Minimum of noncarcinogenic and carcinogenic concentrations.
(d) Minimum concentration of Leaching Value and Risk-based Value.

Exposure Parameters	Industrial Worker Type 4	Unit
Total Hazard Index (THI)	1	unitless
Target Risk (TR)	1.E-05	unitless
Body Weight (BW)	70	kg
Averaging Time, Carcinogen (ATc)	70	yrs
Averaging Time, Noncarcinogen (ATn)	25	yrs
Exposure Duration (ED)	25	yrs
Exposure Frequency (EF)	250	days/yr
Soil Ingestion Rate (IRs)	50	mg/day
Air Inhalation Rate (InhR)	20	m3/day
Particulate Emission Factor (PEF)	4.63E+09	m3/kg
Conversion Factor (CF)	1.E-06	kg/mg
Volatilization Factor (VF)	Chemical-specific	m3/kg

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Table F-8

Derivation of VF Factors (Soil-to-Air Volatilization Factor)

Based on Regional Screening Level Chemical-specific Parameters Supporting Table November 2015

Analyte	CAS No.	MW	H` (unitless)	HLC (atm-m3/mole)	Density (g/cm3)	Dia (cm2/s)	Diw (cm2/s)	Koc (L/kg)	Dei (cm^2/sec)	K_d (cm^3/g)	K_{as} (g/cm^3)	Y (cm^2/sec)	VF (m^3/kg)
Acetone	67-64-1	58.08	0.001431	0.000035	0.7845	0.1059228	1.15E-05	2.364	7.49E-02	4.73E-02	3.04E-02	4.59E-04	6.71E+03
Acetophenone	98-86-2	1.2E+02	4.3E-04	1.0E-05	1.0E+00	6.5E-02	8.7E-06	5.2E+01	4.61E-02	1.04E+00	4.11E-04	3.85E-06	7.36E+04
Benzene	71-43-2	78.11	0.226901	0.00555	0.8765	0.0895384	1.03E-05	145.8	6.33E-02	2.92E+00	7.80E-02	9.88E-04	4.53E+03
Chloroethane	75-00-3	64.515	0.453802	0.0111	0.8902	0.1037597	1.16E-05	21.73	7.34E-02	4.35E-01	1.05E+00	1.29E-02	1.05E+03
Cyclohexane	110-82-7	84.16	6.132461	0.15	0.7739	0.0799752	9.11E-06	145.8	5.66E-02	2.92E+00	2.11E+00	1.70E-02	7.77E+02
Dichloroethane, 1,1-	75-34-3	98.96	0.229763	0.00562	1.1757	0.0836446	1.06E-05	31.82	5.92E-02	6.36E-01	3.62E-01	4.05E-03	2.12E+03
Dichloroethylene, 1,2-cis-	156-59-2	96.94	0.166803	0.00408	1.2837	0.0884088	1.13E-05	39.6	6.25E-02	7.92E-01	2.11E-01	2.57E-03	2.73E+03
Ethylbenzene	100-41-4	106.17	0.322159	0.00788	0.8626	0.0684652	8.46E-06	446.1	4.84E-02	8.92E+00	3.62E-02	3.54E-04	7.63E+03
Methyl Ethyl Ketone (2-Butanone)	78-93-3	72.11	0.002326	5.69E-05	0.7999	0.0914443	1.02E-05	4.51	6.47E-02	9.02E-02	2.59E-02	3.38E-04	7.82E+03
Methylene Chloride	75-09-2	84.93	0.13287	0.00325	1.3266	0.0999389	1.25E-05	21.73	7.07E-02	4.35E-01	3.07E-01	4.14E-03	2.11E+03
Aroclor 1242	53469-21-9	2.9E+02	1.4E-02	3.4E-04	1.4E+00	2.4E-02	6.1E-06	7.8E+04	1.69E-02	1.56E+03	9.00E-06	3.09E-08	8.23E+05
Aroclor 1248	12672-29-6	6.2E+02	1.8E-02	4.4E-04	1.4E+00	1.6E-02	3.9E-06	7.7E+04	1.15E-02	1.53E+03	1.18E-05	2.76E-08	8.71E+05
Aroclor 1254	11097-69-1	3.3E+02	1.2E-02	2.8E-04	1.5E+00	2.4E-02	6.1E-06	1.3E+05	1.68E-02	2.61E+03	4.45E-06	1.52E-08	1.17E+06
Aroclor 1260	11096-82-5	4.0E+02	1.4E-02	3.4E-04	1.6E+00	2.2E-02	5.6E-06	3.5E+05	1.56E-02	6.99E+03	1.97E-06	6.23E-09	1.83E+06
~Acenaphthene	83-32-9	154.21	0.007523	0.000184	1.222	0.0506143	8.33E-06	5027	3.58E-02	1.01E+02	7.50E-05	5.46E-07	1.96E+05
~Anthracene	120-12-7	178.24	0.002273	5.56E-05	1.28	0.0389732	7.85E-06	16360	2.76E-02	3.27E+02	6.97E-06	3.90E-08	7.32E+05
Benzo(a)anthracene	56-55-3	228.3	0.000491	0.000012	1.274	2.6E-02	6.7E-06	176900	1.85E-02	3.54E+03	1.39E-07	5.22E-10	6.33E+06
~Fluorene	86-73-7	166.22	0.003933	9.62E-05	1.203	0.0439743	7.89E-06	9160	3.11E-02	1.83E+02	2.15E-05	1.36E-07	3.92E+05
~Naphthalene	91-20-3	128.18	0.017989	0.00044	1.0253	0.0604994	8.38E-06	1544	4.28E-02	3.09E+01	5.84E-04	5.08E-06	6.41E+04
2-Methylnaphthalene	91-57-6	142.2	0.021177	0.000518	1.0058	0.0524319	7.78E-06	2478	3.71E-02	4.96E+01	4.29E-04	3.23E-06	8.05E+04
~Pyrene	129-00-0	202.26	0.000487	1.19E-05	1.271	0.0277873	7.25E-06	54340	1.97E-02	1.09E+03	4.49E-07	1.79E-09	3.41E+06
Styrene	100-42-5	104.15	0.112429	0.00275	0.9016	0.071114	8.78E-06	446.1	0.050291844	8.9220	1.26E-02	1.29E-04	1.27E+04
Tetrachloroethylene	127-18-4	165.83	0.72363	0.0177	1.623	0.0504664	9.46E-06	94.94	0.035689855	1.8988	3.82E-01	2.57E-03	2.65E+03
Toluene	108-88-3	92.14	0.271464	0.00664	0.8623	0.0778053	9.2E-06	233.9	0.055023934	4.6780	5.82E-02	6.43E-04	5.63E+03
Trichloroethane, 1,1,1-	71-55-6	133.41	0.703189	0.0172	1.339	0.0648174	9.6E-06	43.89	0.045838887	0.8778	8.03E-01	6.43E-03	1.55E+03
Trichloroethylene	79-01-6	131.39	0.402698	0.00985	1.4642	0.0686618	1.02E-05	60.7	0.048557648	1.2140	3.33E-01	3.07E-03	2.44E+03
Trichlorofluoromethane	75-69-4	137.37	3.965658	0.097	1.4879	0.065356	0.00001	43.89	0.046219785	0.8778	4.53E+00	2.22E-02	5.06E+02
Xylenes	1330-20-7	106.17	0.271055	0.00663	0.864	0.0685148	8.46E-06	382.9	4.85E-02	7.66E+00	3.55E-02	3.47E-04	7.71E+03

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