Voluntary Remediation Program
Status Report No.1

Former E. Cohn Property Site
Columbus, Muscogee County, Georgia
Parcels 020 008 003, 020 008 004, 020 004 001, and 020 004 002
HSI Site No. 10933

Submission Date:
December 1, 2017

Prepared by:
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On behalf of:
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Steven Aufdenkampe
Regional Manager
Environmental Remediation

November 28, 2017

Mr. Tom Brodell
Georgia Department of Natural Resources
Environmental Protection Division
Response and Remediation Program
2 Martin Luther King, Jr. Drive
Suite 1054, East Tower
Atlanta, Georgia 30334

Subject: Voluntary Remediation Program Status Report No. 1
Former E. Cohn Property Site – Columbus, Georgia
HSI No. 10933

Dear Mr. Brodell:

Norfolk Southern Railway Corporation (NSRC) and our consultant, Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), respectfully submit the attached Voluntary Remediation Program Status Report No. 1 to the Georgia Environmental Protection Division (EPD). This Status Report No. 1 is issued in relation to the former E. Cohn Property Site – Columbus, Georgia (hereinafter referred to as the "Site"). This Status Report, required by the Voluntary Remediation Program, documents the activities conducted at the site from October 2016 to November 2017.

We respectfully request that the appropriate parties at the EPD review the Status Report No. 1. NSRC intends to proceed with the further soil investigation and groundwater monitoring. We look forward to hearing from you at your earliest convenience. Please contact us if further information or clarification is necessary.

Respectfully Submitted,

Steven Aufdenkampe
Regional Manager Environmental Remediation

cc: John Jolly, Amec Foster Wheeler

Attachment: Voluntary Remediation Program Status Report No. 1

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List of Acronyms and Abbreviations

bgs	below ground surface
COG	Central of Georgia Railroad
CSR	Compliance Status Report
GA EPD	Georgia Environmental Protection Division
HSRA	Hazardous Site Response Act
HSI	Hazardous Site Inventory
mg/kg	milligrams per kilograms
mg/L	milligrams per liter
PCBs	Polychlorinated Biphenyls
RRS	Risk Reduction Standards
SVOC	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
VRP	Voluntary Remediation Program (Georgia)

Professional Geologist Certification

"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 geologist who is registered with the 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/ Georgia P.G. #1031

Printed Name and GA PG Number

11-30-17

Date

Signature and Stamp

Executive Summary

This Voluntary Remediation Program (VRP) Status Report No. 1 documents the VRP activities conducted from October 2016 to November 2017 on the Former E Cohn Property site. The property (parcels 020 008 003 and 020 008 004) located at 715 5th Street in Columbus, Georgia was leased to E. Cohn Company for metal scrapping operations for over fifty years. E. Cohn Company vacated the property in 2014 and Central of Georgia conducted 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 scored the site for exposure to soil impacts only; there is not an exposure pathway to groundwater. The site was listed on the Georgia Hazardous Waste Inventory on September 5, 2015 as site number 10933 for soil only. EPD then called for a HSRA Compliance Status Report to be prepared for the site by E Cohn Company and COG. E Cohn Company declined to participate in the investigation and remediation of the site due to insolvency. The call-in letter also allowed for the options of 1) conducting corrective action 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 VRP Application to enter the site into the VRP. A VRP Application was submitted to EPD on September 12, 2016 and was accepted into the VRP on June 1, 2017. The Application was for the two parcels used by E Cohn and also the two northern parcels (020 004 001 and 020 004 002) due to the detection of constituents on COG property to the north of 6th Street.

The activities conducted since the submittal of the VRP Application have included: additional soil sampling and analysis for further delineation, investigation into property records, monthly inspections, and response to EPD comments on the VRP Application. Additional soil investigation conducted in October 2016 further delineated the extent of metals, VOCs, SVOCs and PCBs in surface and subsurface soils. Several data gaps still exist for the delineation of metals, SVOCs, and PCBs; primarily on the west, southwest, and east sides of the site. VOCs were delineated in the surface and subsurface soils.

The Muscogee County tax records show four property parcels are associated with the subject site property, but there are no deed or plat records on file for these four parcels. The existing property deed records are for a larger property tract of which the four parcels are a subset. Work has been initiated to document the boundaries and ownership of the four parcels. Monthly inspections are conducted to verify the site fence is intact and no-trespassing signs are present and readable and no trash dumping is occurring on the site.

Responses to EPD's comments on the VRP Application were prepared and included in Appendix B of this report. EPD's comments requested additional soil investigation for delineation, presence of hexavalent chromium and evaluation of potential leaching of VOCs and metals at depth, groundwater monitoring with eventual delineation of the groundwater impact. There were several comments on the calculation of Risk Reduction Standards which were updated based on the comments and also included in

this report. EPD also requested a site topographic survey of the site to evaluate if surface runoff was potentially carrying site constituents off the property to impact surface water. Surface water is not present on site and surface runoff from the site does not flow to nearest surface water bodies, Chattahoochee River and Weracoba Creek.

This report also presents a description of the activities proposed to be conducted during the next semi-annual period of January to June 2018. The proposed activities are additional soil sampling and analysis to fill in the delineation data gaps, sample and analyze soil for the presence of hexavalent chromium at locations with elevated total chromium, further sampling of subsurface soils for evaluation of leaching of elevated VOCs and metals concentrations, groundwater monitoring, evaluation of surface runoff pathways, and potential soil/sediment sampling in the surface runoff pathways.

1.0 INTRODUCTION AND BACKGROUND

This Voluntary Remediation Program Semi-Annual Status Report No. 1 (Status Report) was prepared, on behalf of, Central of Georgia Railroad Company in accordance with the Voluntary Remediation Program (VRP) for the Former E Cohn Property site, Hazardous Site Inventory (HSI) No. 10933/Tax Parcel Parcels 020 008 003, 020 008 004, 020 004 001, and 020 004 002. The Georgia Environmental Protection Division (EPD) requested in their June 1, 2017 approval letter accepting the site into the VRP that status reports be submitted in December and June. This first Status Report covers the activities conducted from October 2016 until shortly before the submittal of this status report (November 2017).

The Former E Cohn Property site is located at 715 5th Street in Columbus, Muscogee County, Georgia. Currently, the site 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 fifty years. When E. Cohn Company vacated the property in 2014, COG conducted 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 property on the Hazardous Site Inventory (HSI) on September 4, 2015, site number 10933. Subsequently, on November 5, 2015 EPD called-in a HSRA Compliance Status Report (CSR) for the site. The CSR call-in letters were sent to E Cohn Company and COG. E Cohn Company declined to participate in the investigation and remediation of the site due to insolvency. The call-in letter also allowed for the options of 1) conducting corrective action 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 VRP Application to enter the site into the VRP. A VRP Application was submitted to EPD on September 12, 2016 and was accepted into the VRP on June 1, 2017. EPD provided comments on the VRP Application in a separate letter dated June 1, 2017. The comments are addressed in Appendix B. Additional information to respond to the comments are also included in this Status Report.

2.0 WORK CONDUCTED FROM OCTOBER 2016 TO NOVEMBER 2017

The activities currently identified to be performed at the Former E Cohn Property site under the VRP are outlined in the VRP Application, dated September 12, 2016, the EPD VRP approval letter dated June 1, 2017, and the EPD VRP comment letter dated June 1, 2017. The activities conducted from October 2016 through November 2017 have included additional soil sampling and analysis for further delineation, investigation into property records, monthly inspections, and response to comments. These activities are described in the following sections.

2.1 Additional Soil Sampling and Analysis

Additional soil sampling and analysis were conducted October 18 to 21, 2016 to further delineate constituents detected in soils from previous investigations. A total of 19 soil borings (SBO-11 to SBO-29) were drilled with either hand augers or with a direct-push technology (DPT) rig at locations shown on Figure 1. The soil samples were screened in the field for metals using a XRF and screened for volatile organic compounds using a photoionization detector. A total of 38 soil samples were collected for laboratory analysis from the surface and subsurface soils and analyzed for one or more site constituents including volatile and semi-volatile organic compounds (VOCs and SVOCs), polychlorinated biphenyls (PCBs), and metals. The analytical results of these soil samples are summarized on Tables 1 and 2 and the laboratory data provided in Appendix A. Most of the data gaps were filled in with the additional data; however, a few data gaps exist on the west and east sides of the site. The VRP Application figures showing the extent of the site constituents were updated with the October 2016 data and are included in this report as Figures 2 to 13. Per Comment 9c of the June 1, 2017 comments, methylcyclohexane, cobalt, manganese, and vanadium were removed from Tables 1 and 2 and the delineation figures. The chart below summarizes where the data gaps are by constituent.

Constituent and Corresponding Figure Number	Surface Soil	Subsurface Soil
Mercury See Figure 2	Delineated, except for: Location on west side	Delineated
Copper See Figure 3	Delineated, except for: Locations on southwest and west sides	Delineated, except for: Locations on south and southwest sides
Lead See Figure 4	Delineated, except for: Locations on north, east, southwest, and west sides	Delineated, except for: Locations on southwest and west sides
Nickel See Figure 5	Delineated, except for: Location on west side	Delineated, except for: Location on southwest side
Zinc See Figure 6	Delineated, except for: Locations on east, southwest, and west sides	Delineated, except for: Locations on southeast, south, and southwest sides
Antimony See Figure 7	Delineated, except for: Locations on east, southwest, and west sides	Delineated, except for: Location on southwest side

Constituent and Corresponding Figure Number	Surface Soil	Subsurface Soil
Arsenic See Figure 8	Delineated, except for: Locations on northwest and west sides	Delineated, except for: Location on southwest side
Cadmium See Figure 9	Delineated, except for: Locations on southwest and west sides	Delineated, except for: Locations on south and southwest sides
Chromium See Figure 10	Delineated, except for: Locations on west side	Delineated, except for: Locations on northeast and southwest sides
PCBs See Figure 11	Delineated, except for: Locations on southwest and west side	Delineated, except for: Location on southwest side
SVOCs See Figure 12	Delineated, except for: Locations on east and west sides	Delineated
VOCs See Figure 13	Delineated	Delineated

2.2 Property Records

The Muscogee County tax records show four property parcels are associated with the subject site property, but there are no deed or plat records on file for these four parcels. The existing property deed records, submitted with the VRP Application, are for a larger property tract of which the four parcels are a subset. Norfolk Southern is researching how the four parcels comprising the site were established and how these parcels correlate with the larger tract. To establish deed and plat records specific to these four parcels and to make the property records consistent with Muscogee County records, surveying may have to be conducted to prepare the documents. This is an on-going task.

2.3 Monthly Inspections

Amec Foster Wheeler under contract to Norfolk Southern conducts a monthly inspection of the site to check the condition of the site fencing and for the presence of unauthorized activity. Since July 2016, the site has been inspected once per month. The site fence around the two southern parcels is intact and the two gates are locked and no-trespassing signs are present on the gates. The northern parcels are not fenced. There does not appear to be evidence of trespassing or illegal trash dumping. The existing buildings are intact.

2.4 Response to EPD Comments dated June 1, 2017

EPD provided comments on the September 2016 VRP Application in a letter dated June 1, 2017. Responses to the comments are provided in Appendix B of this report. Figures 2 to 13 provide additional data to supplement the responses. Appendix B provides the Risk Reduction Standards calculations updated based on EPD's comments. Appendix C provides a copy of the site topographic survey map as requested by EPD.

3.0 WORK TO BE PERFORMED

Additional activities anticipated to be conducted during the next semi-annual period include additional soil sampling and analysis, groundwater sampling and analysis, and storm water runoff evaluation, and reporting. The sections below describe the status of the activities yet to be performed. Figure 14 is the updated Gantt Chart Schedule of VRP Activities.

3.1 Additional Soil Sampling and Analysis

Additional soil sampling and analysis is proposed to be conducted to eliminate data gaps, evaluate leaching, and investigate for the presence of hexavalent chromium. As described in Section 2.1, there are several minor remaining data gaps. Additional soil sampling and analysis will be conducted in an effort to close the remaining data gaps. Given that some of the sampling may have to be conducted along the street right-of-way, access may affect the schedule.

To investigate if elevated VOCs and metals concentrations in surface and shallow subsurface soils are potentially leaching to groundwater, at EPD's request, soil samples are proposed for collection from borings extending to near groundwater depths at locations (SS-06, SS-07, SS-13, SS-14, and DT-03-40). Other locations with elevated concentrations already have soil samples from depths near groundwater or are adjacent to the existing monitoring wells.

Also per EPD's request, soil samples will be collected to evaluate if hexavalent chromium is present at the site. Soil samples will be collected at the surface and potentially from the 2 to 4 foot depth from three locations (SBO-03, SBO-06, and SS-14) with previously detected elevated total chromium concentrations. Soil samples will be analyzed for hexavalent chromium using USEPA method 7199 and analyzed for pH and oxygen reduction potential for evaluation of reducing conditions.

3.2 Groundwater Sampling and Analysis

Groundwater samples will be collected from the four existing monitoring wells (MW-1, MW-2, MW-3, and MW-4) during the first half of 2018. Constituents to be analyzed will be VOCs, SVOCs, PCBs, and total metals (antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc). Prior to this second sampling event of these wells, the wells will be re-developed.

3.3 Surface Runoff Path Evaluation

EPD requested additional information and/or investigation along drainage pathways to determine if site contamination has migrated off-property and impacted sediments or possess a threat to surface water. No surface water body exists on or near the site. The closest surface water is the Chattahoochee River approximately 3600 feet to the west of the site and Weracoba Creek located approximately 2500 feet to the east of the site. There are numerous man-made structures and pavements located between the E Cohn Property site and these surface water bodies that impede surface runoff from the

site toward these surface water bodies. The E Cohn Property site is vegetated which reduces or prevents erosion of site soils. Storm drain manholes and curb inlets are present on 5th and 6th Streets, which bound the site on the south and north sides, respectively. Curb inlets convey storm water to a combined sewer system where it is conveyed to a treatment plant, treated, and discharged. A topographic survey map of the two southern parcels, identified as the E Cohn Property, has been completed and is included in Appendix C.

COG will evaluate the area along with the topographic survey map during a rainfall event to determine a primary flow path(s). COG proposes to sample the soil/sediment in the flow path to evaluate if the surface runoff is transporting site constituents of concern off-property.

4.0 PROFESSIONAL SERVICES HOURS THIS PERIOD

Approximately 382.4 professional service hours have been provided by Amec Foster Wheeler Environment & Infrastructure, Inc. from October 21, 2016 to September 29, 2017. The registered professional geologist responsible for implementation of the VRP at this site is Ms. Rhonda Quinn who has personally charged 60.8 labor hours. The labor effort during this period was for the following services.

- Preparation of scopes of work and procurement for October 2016 soil investigation
- Site visit during soil investigation
- Monthly site inspections
- Initiation of investigation into procurement of property records
- Management of investigation-derived waste
- Communications with client and general project management
- Data quality evaluation
- Data analysis
- Review of EPD approval and comment letter on the VRP Application.
- Preparation of responses to EPD comments
- Revision of RRSs
- Communications with railroad real estate department to resolve property parcel documentation
- Evaluation where additional delineation is needed
- Preparation of VRP Status Report No. 1

TABLES

VRP Status Report No. 1
Former E. Cohn Property - Columbus, GA
HSI Site No. 10933
Amec Foster Wheeler 6123-14-0242

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	BK-01 0-2 BK-1-0-2-062316 6/23/2016 Sample	BK-02 0-2 BK-2-0-2-062316 6/23/2016 Sample	BK-03 0-2 BK-3-0-2-062316 6/23/2016 Sample	BK-04 0-2 BK-4-0-2-062316 6/23/2016 Sample	BK-05 0-2 BK-5-0-2-062316 6/23/2016 Sample	BK-06 0-2 BK-6-0-2-062316 6/23/2016 Sample	BK-07 0-2 BK-7-0-2-062316 6/23/2016 Sample	BK-08 0-2 BK-8-0-2-062316 6/23/2016 Sample	BK-09 0-2 BK-9-0-2-062316 6/23/2016 Sample	BK-10 0-2 BK-10-0-2-062316 6/23/2016 Sample	DT-01B 0-2 DT-1B-0-2-062216 6/22/2016 Sample	DT-02-120 0-2 DT-2-120-0-2-062316 6/23/2016 Sample
Explosives - SW846 8330B, mg/kg																
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg																
Mercury	0.5	0.5	17	0.167	**0.164**	**0.736**	< 0.112	< 0.0979	< 0.102	**0.126**	< 0.102	**0.701**	**0.113**	< 0.111	NA	NA
Metals, Total - SW846 6010C, mg/kg																
Barium	1000	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	100	100	1500	58.5	**15.7**	**36.2**	**29.8**	**65.9**	**37.1**	**156**	**21.7**	**38.5**	**58.4**	**36.3**	**77.7**	**111**
Lead	125	75	400	125	**26.2**	**90.1**	**26.4**	**74.8**	**63.3**	**293**	**35.2**	**141**	**49**	**24.5**	**126**	**183**
Nickel	50	50	420	16.3	**6.92**	**8.83**	**11.3**	**11.6**	**7.36**	**9.86**	**5.68**	**7.33**	**5.93**	**12.9**	NA	NA
Zinc	126	291.9	2800	126	**42.4**	**123**	**71.9**	**63**	**150**	**387**	**53.7**	**91.1**	**55**	**77.6**	NA	NA
Metals, Total - SW846 6020A, mg/kg																
Antimony	4.0	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	**1.77**	**3.85 JL**
Arsenic	20	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**	**34**	**17.7**
Beryllium	2.0	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	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	NA	NA
Chromium	100	100	108.93	43.9	**21.7**	**25.2**	**34.8**	**19.1**	**15.9**	**40.7**	**8.97**	**23.2**	**19**	**30.2**	NA	NA
Selenium	2.0	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	NA	NA
Silver	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg																
PCB-1242	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.019
PCB-1248	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.019
PCB-1254	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.019
PCB-1260	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.019
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg																
2,4-Dimethylphenol	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	1.64	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.061**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	5.0	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	BK-01 0-2 BK-1-0-2-062316 6/23/2016 Sample	BK-02 0-2 BK-2-0-2-062316 6/23/2016 Sample	BK-03 0-2 BK-3-0-2-062316 6/23/2016 Sample	BK-04 0-2 BK-4-0-2-062316 6/23/2016 Sample	BK-05 0-2 BK-5-0-2-062316 6/23/2016 Sample	BK-06 0-2 BK-6-0-2-062316 6/23/2016 Sample	BK-07 0-2 BK-7-0-2-062316 6/23/2016 Sample	BK-08 0-2 BK-8-0-2-062316 6/23/2016 Sample	BK-09 0-2 BK-9-0-2-062316 6/23/2016 Sample	BK-10 0-2 BK-10-0-2-062316 6/23/2016 Sample	DT-01B 0-2 DT-1B-0-2-062216 6/22/2016 Sample	DT-02-120 0-2 DT-2-120-0-2-062316 6/23/2016 Sample
Volatile Organic Compounds - SW846 8260C, mg/kg																
1,1,1-Trichloroethane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	0.17	1.71	8.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	1000	1000	--	NA	NA	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] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 surface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
Bold = Detected Above the Laboratory Reporting Dectection Limit

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	DT-03-40 0-2 DT-3-40-0-2-062316 6/23/2016 Sample	DT-04-100 0-2 DT-4-100-0-2-062216 6/22/2016 Sample	DT-05-50 0-2 DT-5-50-0-2-062116 6/21/2016 Sample	DT-05-50 0-2 DT-DUP1-062116 6/21/2016 Duplicate	DT-06-35 0-2 DT-6-35-0-2-062116 6/21/2016 Sample	DT-07-40 0-2 DT-7-40-0-2-062316 6/23/2016 Sample	DT-08-Offset 0-2 DT-8-0-2-062316_OFFSET 6/23/2016 Sample	DT-09-105 0-2 DT-9-105-0-2-062316 6/23/2016 Sample	DT-09-105 0-2 DT-DUP3-062316 6/23/2016 Duplicate	DT-10B 0-2 DT-10B-0-2-062216 6/22/2016 Sample	DT-11B 0-2 DT-11B-0-2-062216 6/22/2016 Sample
Explosives - SW846 8330B, mg/kg															
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg															
Mercury	0.5	0.5	17	0.167	NA	NA	NA	NA	NA	< 0.102	< 0.104	**0.166**	**0.204**	NA	NA
Metals, Total - SW846 6010C, mg/kg															
Barium	1000	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	100	100	1500	58.5	NA	NA	**30.9**	NA	NA	**139**	**76**	**78.2**	**74.4**	**30.9**	**276**
Lead	125	75	400	125	**879**	**387**	**50.9**	NA	**58.9**	**23.4**	**237**	**285**	**247**	**44.2**	**95.1**
Nickel	50	50	420	16.3	NA	NA	NA	NA	NA	**5.72**	**38.6**	**16.2 J**	**31.7 J**	NA	**30.6**
Zinc	126	291.9	2800	126	NA	NA	NA	NA	NA	**33.5**	**195**	**174**	**163**	**83.7**	**137**
Metals, Total - SW846 6020A, mg/kg															
Antimony	4.0	4.0	10	3.96	NA	NA	**0.828**	NA	NA	< 0.401	**11.8**	NA	NA	NA	**1.8**
Arsenic	20	20	38.12	9.41	NA	**23**	NA	NA	**10.8**	NA	**14.9**	NA	NA	NA	NA
Beryllium	2.0	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	2.0	39	0.454	NA	NA	**0.182**	NA	NA	< 0.201	**1.39**	**0.662**	**0.657**	NA	**0.427**
Chromium	100	100	108.93	43.9	NA	NA	NA	NA	NA	**5.67**	**27.8**	**36.8**	**35.6**	NA	NA
Selenium	2.0	2.0	36	0.957	NA	**1.05**	NA	NA	< 0.648	NA	NA	NA	NA	NA	NA
Silver	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg															
PCB-1242	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	< 0.017	< 0.018	< 0.018	< 0.019	< 0.088
PCB-1248	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	< 0.017	< 0.018	< 0.018	< 0.019	< 0.088
PCB-1254	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	< 0.017	< 0.018	< 0.018	< 0.019	**0.13 JH**
PCB-1260	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	**0.072**	**0.071**	**0.072**	< 0.019	< 0.088
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg															
2,4-Dimethylphenol	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	1.64	--	NA	**3.2**	NA	NA	**0.24**	**0.093**	**1.3**	**4.4**	**2.7**	NA	NA
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	5.0	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	DT-03-40 0-2 DT-3-40-0-2-062316 6/23/2016 Sample	DT-04-100 0-2 DT-4-100-0-2-062216 6/22/2016 Sample	DT-05-50 0-2 DT-5-50-0-2-062116 6/21/2016 Sample	DT-05-50 0-2 DT-DUP1-062116 6/21/2016 Duplicate	DT-06-35 0-2 DT-6-35-0-2-062116 6/21/2016 Sample	DT-07-40 0-2 DT-7-40-0-2-062316 6/23/2016 Sample	DT-08-Offset 0-2 DT-8-0-2-062316_OFFSET 6/23/2016 Sample	DT-09-105 0-2 DT-9-105-0-2-062316 6/23/2016 Sample	DT-09-105 0-2 DT-DUP3-062316 6/23/2016 Duplicate	DT-10B 0-2 DT-10B-0-2-062216 6/22/2016 Sample	DT-11B 0-2 DT-11B-0-2-062216 6/22/2016 Sample
Volatile Organic Compounds - SW846 8260C, mg/kg															
1,1,1-Trichloroethane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	0.17	1.71	8.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	**12**	NA	**2.6 J**	**0.029 J**	NA	NA	NA	NA	NA	NA	NA
Toluene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
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RRS = Risk Reduction Standard
[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
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[d] = Background Threshold Value
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Bold = Detected Above the Laboratory Reporting Dectection Limit

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	DT-12B 0-2 DT-12B-0-2-062216 6/22/2016 Sample	MW-01 0-2 MW-1-0-2-022516 2/25/2016 Sample	MW-01 0-2 MW-1-0-2-022616 2/26/2016 Sample	MW-01 0-2 MW-1-0-2 DUP-022616 2/26/2016 Duplicate	MW-02 0-2 MW-2-0-2-022516 2/25/2016 Sample	MW-02 0-2 MW-DUP-03-022516FD 2/25/2016 Duplicate	MW-03 0-2 MW-3-0-2-022416 2/24/2016 Sample	MW-04 0-2 MW-4-0-2-022316 2/23/2016 Sample	SBO-01 0-2 SBO-01-0-2-022616 2/26/2016 Sample	SBO-01 0-2 SBO-01-0-2 DUP-022616 2/26/2016 Duplicate	SBO-02 0-2 SBO-02-0-2-022616 2/26/2016 Sample	SBO-03 0-2 SBO-03-0-2-022616 2/29/2016 Sample
Explosives - SW846 8330B, mg/kg																
4-Nitrotoluene	1.12	1.12	1.12	--	NA	< 0.13	NA	NA	< 0.14	< 0.13	< 0.14	< 0.13	< 0.14	NA	< 0.14	< 0.14
Mercury, Total - SW846 7471B, mg/kg																
Mercury	0.5	0.5	17	0.167	NA	< 0.209	NA	NA	**0.816**	**0.657**	**0.376**	**0.447**	**0.616**	NA	**1.25**	**1.37**
Metals, Total - SW846 6010C, mg/kg																
Barium	1000	1000	1000	--	NA	**128**	NA	NA	**851**	**898**	**276**	**194**	**221**	NA	**281**	**502**
Copper	100	100	1500	58.5	**47.2**	**1550**	NA	NA	**2220 J**	**943 J**	**1160**	**549 J**	**1380**	NA	**858**	**760**
Lead	125	75	400	125	**102**	**131**	NA	NA	**1990**	**1490**	**279**	**276**	**714**	NA	**818**	**878**
Nickel	50	50	420	16.3	NA	**43.8**	NA	NA	**490**	**366**	**44.7**	**54.9 J**	**178**	NA	**171**	**249**
Zinc	126	291.9	2800	126	NA	**400**	NA	NA	**10300 J**	**25000 J**	**657**	**643**	**1730**	NA	**2040**	**8210**
Metals, Total - SW846 6020A, mg/kg																
Antimony	4.0	4.0	10	3.96	NA	**3.31**	NA	NA	**17.8**	**21.4**	**3.8**	**5.87**	**9.47**	NA	**15.7**	**13.6**
Arsenic	20	20	38.12	9.41	NA	**3.75**	NA	NA	**16.7**	**14.5**	**8.05**	**6.99**	**36.2**	NA	**10.5**	**17.2**
Beryllium	2.0	24.72	161.52	--	NA	**0.645**	NA	NA	**0.348**	**0.259**	**0.505**	**0.573**	**0.433**	NA	**0.356**	**0.427**
Cadmium	2.0	2.0	39	0.454	NA	**2.89**	NA	NA	**21.6**	**20.9**	**1.86**	**1.92**	**9.0**	NA	**5.96**	**8.7**
Chromium	100	100	108.93	43.9	NA	**27.1**	NA	NA	**400**	**295**	**70.4**	**141**	**238**	NA	**296**	**2100**
Selenium	2.0	2.0	36	0.957	NA	< 0.775	NA	NA	**0.959**	**0.836**	< 0.731	< 0.866	**1.11**	NA	< 0.935	< 0.965
Silver	2.0	2.0	10	--	NA	< 0.194	NA	NA	**0.805**	**0.879**	**0.718**	**0.411**	**0.698**	NA	**1.27**	**1.21**
Thallium	2.0	2.0	10	--	NA	**0.342**	NA	NA	< 1.02	< 0.207	< 0.914	< 0.216	< 0.183	NA	< 0.234	< 2.41
Polychlorinated Biphenyls - SW846 8082A, mg/kg																
PCB-1242	1.55	1.55	1.55	--	NA	< 0.094	NA	NA	< 1.0	< 1.9	**0.79**	< 0.19	< 4.0	NA	< 0.99	< 1.0
PCB-1248	1.55	1.55	1.55	--	NA	**0.27**	NA	NA	**8.0 J**	< 1.9 UJ	< 0.2	**2.8**	**40**	NA	**15**	**9.7**
PCB-1254	1.55	1.55	1.55	--	NA	**0.17**	NA	NA	**14**	**12**	**1.8**	**1.4**	**10**	NA	**11**	**3.9**
PCB-1260	1.55	1.55	1.55	--	NA	< 0.094	NA	NA	< 1.0	< 1.9	< 0.2	**0.32**	< 4.0	NA	< 0.99	< 1.0
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg																
2,4-Dimethylphenol	70	70	70	--	NA	< 0.036	NA	NA	< 1.0	< 0.94	< 0.2	< 0.18	< 0.2	NA	< 0.39	< 0.41
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	< 0.018	NA	NA	**2.0**	**2.1**	< 0.1	< 0.093 UJ	**0.28**	NA	< 0.2	< 0.21
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	NA	< 0.036	NA	NA	< 1.0	< 0.94	< 0.2	< 0.18	< 0.2	NA	< 0.39	< 0.41
4-Chloroaniline	10	10	10	--	NA	< 0.073	NA	NA	< 2.0	< 1.9	< 0.4	< 0.37 UJ	< 0.4	NA	< 0.78	< 0.81
Acenaphthene	300	300	300	--	NA	< 0.018	NA	NA	< 0.52	< 0.48	< 0.1	**0.13 J**	**0.19**	NA	< 0.2	< 0.21
Acenaphthylene	130	130	130	--	NA	< 0.018	NA	NA	< 0.52	< 0.48	< 0.1	< 0.093 UJ	< 0.1	NA	< 0.2	< 0.21
Acetophenone	400	400	400	--	NA	< 0.036	NA	NA	< 1.0	< 0.94	< 0.2	< 0.18 UJ	< 0.2	NA	< 0.39	< 0.41
Anthracene	500	500	1000	--	NA	< 0.018	NA	NA	**0.62**	< 0.48	< 0.1	**0.31 J**	**0.32**	NA	**0.34**	**0.49**
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	< 0.018	NA	NA	**1.1**	**0.66**	**0.2**	**1.0 J**	**1.5**	NA	**2.5**	**1.6**
Benzo(a)pyrene	1.64	1.64	1.64	--	NA	< 0.018	NA	NA	**2.3**	**0.96**	**0.36**	**1.1 J**	**2.5**	NA	**9.2**	**1.7**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	**0.027**	NA	NA	**2.2**	**2.0**	**0.49**	**1.8 J**	**3.0**	NA	**12**	**2.4**
Benzo(g,h,i)perylene	500	500	500	--	NA	< 0.018	NA	NA	**2.3**	**1.4**	**0.3**	**1.1 J**	**2.9**	NA	**8.1**	**1.6**
Benzo(k)fluoranthene	5.0	13.71	46	--	NA	< 0.018	NA	NA	**1.1**	**0.72**	**0.19**	**0.6 J**	**1.3**	NA	**4.5**	**1.0**
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	< 0.18	NA	NA	**10**	**8.1**	< 1.0	**3.5 J**	**1.1**	NA	**2.2**	< 2.1
Butyl benzyl phthalate	50	50	50	--	NA	< 0.18	NA	NA	< 5.1	< 4.7	< 0.99	< 0.92 UJ	< 1.0	NA	< 1.9	< 2.0
Chrysene	5.0	42	140	--	NA	**0.02**	NA	NA	**1.4**	**1.1**	**0.31**	**1.0 J**	**1.7**	NA	**3.0**	**1.6**
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	< 0.018	NA	NA	< 0.52	< 0.48	**0.14**	< 0.093 UJ	**0.52**	NA	**2.4**	**0.29**
Diethyl phthalate	500	500	500	--	NA	< 0.18	NA	NA	< 5.1	< 4.7	< 0.99	< 0.92 UJ	< 1.0	NA	< 1.9	< 2.0
Dimethyl phthalate	40000	40000	40000	--	NA	< 0.18	NA	NA	< 5.1	< 4.7	< 0.99	< 0.92 UJ	< 1.0	NA	< 1.9	< 2.0
Fluoranthene	500	500	500	--	NA	**0.025**	NA	NA	**1.8**	**1.0**	**0.36**	**2.0 J**	**1.9**	NA	**3.1**	**3.0**
Fluorene	360	360	360	--	NA	< 0.018	NA	NA	< 0.52	< 0.48	< 0.1	**0.14 J**	**0.51**	NA	< 0.2	< 0.21
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	< 0.018	NA	NA	**1.7**	**0.71**	**0.27**	**0.94 J**	**2.3**	NA	**7.9**	**1.4**
Naphthalene	100	100	100	--	NA	< 0.018	NA	NA	**1.6**	**1.5**	< 0.1	< 0.093 UJ	**0.28**	NA	< 0.2	< 0.21
Phenanthrene	110	110	110	--	NA	**0.019**	NA	NA	**1.9**	**1.2**	**0.18**	**1.2 J**	**1.5**	NA	**1.1**	**1.6**
Phenol	400	400	400	--	NA	< 0.036	NA	NA	< 1.0	< 0.94	< 0.2	**0.41**	**0.34**	NA	< 0.39	< 0.41
Pyrene	500	500	500	--	NA	**0.022**	NA	NA	**2.1**	**1.6**	**0.42**	**2.1 J**	**2.2**	NA	**2.7**	**2.4**

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	DT-12B 0-2 DT-12B-0-2-062216 6/22/2016 Sample	MW-01 0-2 MW-1-0-2-022516 2/25/2016 Sample	MW-01 0-2 MW-1-0-2-022616 2/26/2016 Sample	MW-01 0-2 MW-1-0-2 DUP-022616 2/26/2016 Duplicate	MW-02 0-2 MW-2-0-2-022516 2/25/2016 Sample	MW-02 0-2 MW-DUP-03-022516FD 2/25/2016 Duplicate	MW-03 0-2 MW-3-0-2-022416 2/24/2016 Sample	MW-04 0-2 MW-4-0-2-022316 2/23/2016 Sample	SBO-01 0-2 SBO-01-0-2-022616 2/26/2016 Sample	SBO-01 0-2 SBO-01-0-2 DUP-022616 2/26/2016 Duplicate	SBO-02 0-2 SBO-02-0-2-022616 2/26/2016 Sample	SBO-03 0-2 SBO-03-0-2-022616 2/29/2016 Sample
Volatile Organic Compounds - SW846 8260C, mg/kg																
1,1,1-Trichloroethane	20	20	20	--	NA	< 0.005	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
1,1-Dichloroethane	400	400	400	--	NA	< 0.005	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	< 0.011	NA	NA	< 0.41	**0.022 JH**	< 0.009	< 0.42	< 0.011	NA	< 0.01	< 0.011
Acetone	400	400	400	--	NA	**0.13**	NA	NA	< 0.83	**0.24 JH**	**0.023**	< 0.84	**0.046**	NA	**0.052**	**0.054**
Benzene	0.5	0.5	0.5	--	NA	< 0.005	NA	NA	< 0.21	**0.007 JH**	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Chloroethane	0.17	1.71	8.4	--	NA	< 0.005	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
cis-1,2-Dichloroethene	7.0	7	7.0	--	NA	< 0.005	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Cyclohexane	20	20	20	--	NA	< 0.005	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Ethylbenzene	70	70	70	--	NA	< 0.005	NA	NA	**0.73 J**	< 0.006 UJ	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	< 0.005	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	**0.006**
Styrene	14	14	14	--	NA	< 0.005	NA	NA	**0.32 J**	< 0.006 UJ	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	NA	**0.06**	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	**0.033 JH**	NA	< 0.005	< 0.006
Toluene	100	100	100	--	NA	< 0.005	NA	NA	**8.4 J**	**0.009 JH**	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	< 0.005	NA	NA	< 0.21	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	< 0.005	NA	NA	**0.21**	< 0.006	< 0.004	< 0.21	< 0.005	NA	< 0.005	< 0.006
Xylenes, Total	1000	1000	1000	--	NA	< 0.005	NA	NA	**4.2 J**	**0.009 JH**	< 0.004	< 0.21	< 0.005	NA	**0.022**	< 0.006

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
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[d] = 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
Bold = Detected Above the Laboratory Reporting Dectection Limit

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

VRP Status Report No. 1
Former E. Cohn Property - Columbus, GA
HSI Site No. 10933
Amec Foster Wheeler 6123-14-0242

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-04 0-2 SBO-04-0-2-022516 2/25/2016 Sample	SBO-05 0-2 SBO-05-0-2-022616 2/29/2016 Sample	SBO-06 0-2 SBO-06-0-2-022616 2/29/2016 Sample	SBO-07 0-2 SBO-07-0-2-022316 2/24/2016 Sample	SBO-08 0-2 SBO-08-0-2-022316 2/23/2016 Sample	SBO-08 0-2 SBO-08-0-2 DUP-022316 2/23/2016 Duplicate	SBO-09 0-2 SBO-09-0-2-022616 2/26/2016 Sample	SBO-09 0-2 SBO-DUP-4-022616FD 2/26/2016 Duplicate	SBO-10 0-2 SBO-10-0-2-022316 2/23/2016 Sample	SBO-11 0-2 SBO-11-0-2-101816 10/18/2016 Sample	SBO-12 0-2 SBO-12-0-2-101916 10/19/2016 Sample	SBO-12 0-2 DUP-02-101916FD 10/19/2016 Duplicate
Explosives - SW846 8330B, mg/kg																
4-Nitrotoluene	1.12	1.12	1.12	--	< 0.15	< 0.14	< 0.13	< 0.14	< 0.15	NA	< 0.13	< 0.13	< 0.14	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg																
Mercury	0.5	0.5	17	0.167	**1.07**	**1.3**	**1.9**	**1.43**	**4.07**	NA	**1.23**	**0.981**	**0.764**	NA	**0.302 JH**	NA
Metals, Total - SW846 6010C, mg/kg																
Barium	1000	1000	1000	--	**209**	**294**	**457**	**314**	**738**	NA	**331**	**259**	**185**	NA	NA	NA
Copper	100	100	1500	58.5	**354**	**1140**	**956**	**911**	**519**	NA	**732**	**459**	**240**	**544**	**263**	NA
Lead	125	75	400	125	**466**	**1970**	**922**	**1020**	**606**	NA	**746**	**603**	**325**	**1460**	**260**	NA
Nickel	50	50	420	16.3	**91.7**	**141**	**295**	**190**	**185**	NA	**139**	**155**	**78.6**	NA	**35.4**	NA
Zinc	126	291.9	2800	126	**1190**	**2750**	**2650**	**2060**	**1940**	NA	**2100**	**1860**	**1000**	**2910**	**732**	NA
Metals, Total - SW846 6020A, mg/kg																
Antimony	4.0	4.0	10	3.96	**4.13**	**14.3**	**27**	**20.7**	**20.3**	NA	**18.4**	**15.2**	**6.74**	NA	**2.43**	NA
Arsenic	20	20	38.12	9.41	**12.9**	**17.7**	**16.3**	**19.3**	**14**	NA	**12.3**	**11.6**	**9.25**	NA	NA	NA
Beryllium	2.0	24.72	161.52	--	**0.789**	**0.389**	**0.348**	**0.545**	**0.622**	NA	**0.351**	**0.411**	**0.722**	NA	NA	NA
Cadmium	2.0	2.0	39	0.454	**9.8**	**8.65**	**9.31**	**7.13**	**5.74**	NA	**14.8**	**10.8**	**2.68**	NA	**3.08**	NA
Chromium	100	100	108.93	43.9	**107**	**232**	**566**	**448**	**178**	NA	**320**	**320**	**166**	NA	**122**	NA
Selenium	2.0	2.0	36	0.957	< 0.733	< 0.89	< 0.799	< 0.919	< 1.06	NA	< 0.897	**12.9**	< 0.913	NA	NA	NA
Silver	2.0	2.0	10	--	**0.538**	**1.37**	**10.3**	**2.24**	**0.788**	NA	**1.03**	**0.706**	**0.272**	NA	NA	NA
Thallium	2.0	2.0	10	--	**0.224**	< 1.11	< 0.998	< 0.23	< 0.266	NA	< 0.224	< 0.219	< 0.228	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg																
PCB-1242	1.55	1.55	1.55	--	< 0.41	< 2.1	< 1.9	< 0.4	< 0.45	NA	< 1.9	< 0.95	< 0.2	NA	NA	NA
PCB-1248	1.55	1.55	1.55	--	**5.4**	**28**	**22**	**6.8**	**6.3**	NA	**13 J**	**7.3 J**	**3.0**	< 0.92	< 0.19	NA
PCB-1254	1.55	1.55	1.55	--	**6.6**	**11**	**20**	**4.5**	**4.5**	NA	**8.3 J**	**4.7 J**	**1.5**	**8.9**	**1.6**	NA
PCB-1260	1.55	1.55	1.55	--	< 0.41	< 2.1	< 1.9	< 0.4	< 0.45	NA	< 1.9	< 0.95	< 0.2	NA	NA	NA
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg																
2,4-Dimethylphenol	70	70	70	--	< 0.21	< 1.0	< 0.95	< 0.2	< 1.1	NA	**0.86**	< 0.37	< 0.19	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	**0.31**	< 0.52	**0.57**	**0.21**	< 0.57	NA	**0.4**	**0.23**	**0.15**	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	< 0.21	< 1.0	< 0.95	< 0.2	< 1.1	NA	**0.69**	< 0.37	< 0.19	NA	NA	NA
4-Chloroaniline	10	10	10	--	< 0.41	< 2.0	< 1.9	< 0.4	< 2.2	NA	< 0.38	< 0.74	< 0.38	NA	NA	NA
Acenaphthene	300	300	300	--	**0.55**	< 0.52	< 0.48	**0.32**	< 0.57	NA	**1.0 J**	**0.22 J**	**0.22**	NA	NA	NA
Acenaphthylene	130	130	130	--	**0.19**	< 0.52	< 0.48	< 0.1	< 0.57	NA	**0.13**	< 0.19	< 0.097	NA	NA	NA
Acetophenone	400	400	400	--	< 0.21	< 1.0	< 0.95	< 0.2	< 1.1	NA	< 0.19	< 0.37	**1.1**	NA	NA	NA
Anthracene	500	500	1000	--	**1.0**	**0.68**	**1.3**	**0.9**	< 0.57	NA	**3.4 J**	**0.77 J**	**0.62**	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	**2.3**	**1.1**	**4.2**	**3.0**	**1.2**	NA	**6.1 J**	**1.6 J**	**2.1**	NA	**4.1 J**	**4.6 J**
Benzo(a)pyrene	1.64	1.64	1.64	--	**2.6**	**1.6**	**4.0**	**2.9**	**1.9**	NA	**5.3 J**	**1.8 J**	**2.2**	NA	**2.3 J**	**2.4 J**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	**3.9**	**2.2**	**5.3**	**4.6**	**2.9**	NA	**7.1 J**	**3.0 J**	**3.0**	NA	**4.8 J**	**5.1 J**
Benzo(g,h,i)perylene	500	500	500	--	**2.5**	**1.8**	**2.9**	**2.7**	**2.0**	NA	**4.1 J**	**1.8 J**	**1.8**	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46	--	**1.4**	**1.1**	**2.6**	**1.7**	**0.87**	NA	**2.8 J**	**1.1 J**	**1.2**	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	**2.4**	**16**	**33**	**3.6**	< 5.7	NA	**60 J**	**19 J**	**3.5**	NA	< 1.9	< 0.94
Butyl benzyl phthalate	50	50	50	--	< 1.0	< 5.1	**5.5**	**1.5**	< 5.6	NA	**1.5**	< 1.9	< 0.95	NA	NA	NA
Chrysene	5.0	42	140	--	**2.6**	**1.7**	**5.1**	**3.0**	**1.4**	NA	**6.6 J**	**1.6 J**	**2.1**	NA	**5.0 J**	**5.5 J**
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	**0.71**	< 0.52	**0.95**	**0.69**	**0.71**	NA	**1.1 J**	**0.46 J**	**0.58**	NA	NA	NA
Diethyl phthalate	500	500	500	--	< 1.0	< 5.1	< 4.7	< 0.99	< 5.6	NA	< 0.94	< 1.9	< 0.95	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	< 1.0	< 5.1	< 4.7	< 0.99	< 5.6	NA	**3.0**	**4.8**	< 0.95	NA	NA	NA
Fluoranthene	500	500	500	--	**4.1**	**2.8**	**9.5**	**5.5**	**1.9**	NA	**14 J**	**3.1 J**	**3.8**	NA	NA	NA
Fluorene	360	360	360	--	**0.48**	< 0.52	< 0.48	**0.36**	< 0.57	NA	**1.5 J**	**0.25 J**	**0.22**	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	**2.2**	**1.6**	**2.5**	**2.3**	**1.6**	NA	**3.6 J**	**1.5 J**	**1.7**	NA	NA	NA
Naphthalene	100	100	100	--	**0.42**	< 0.52	< 0.48	**0.2**	< 0.57	NA	**0.47**	**0.28**	**0.14**	NA	NA	NA
Phenanthrene	110	110	110	--	**3.2**	**1.9**	**4.1**	**3.6**	**1.1**	NA	**13 J**	**2.2 J**	**2.2**	NA	NA	NA
Phenol	400	400	400	--	**2.2**	**1.6**	< 0.95	< 0.2	< 1.1	NA	**0.7**	< 0.37	< 0.19	NA	NA	NA
Pyrene	500	500	500	--	**3.3**	**2.8**	**10**	**5.2**	**1.9**	NA	**14 J**	**3.3 J**	**4.1**	NA	NA	NA

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-04 0-2 SBO-04-0-2-022516 2/25/2016 Sample	SBO-05 0-2 SBO-05-0-2-022616 2/29/2016 Sample	SBO-06 0-2 SBO-06-0-2-022616 2/29/2016 Sample	SBO-07 0-2 SBO-07-0-2-022316 2/24/2016 Sample	SBO-08 0-2 SBO-08-0-2-022316 2/23/2016 Sample	SBO-08 0-2 SBO-08-0-2 DUP-022316 2/23/2016 Duplicate	SBO-09 0-2 SBO-09-0-2-022616 2/26/2016 Sample	SBO-09 0-2 SBO-DUP-4-022616FD 2/26/2016 Duplicate	SBO-10 0-2 SBO-10-0-2-022316 2/23/2016 Sample	SBO-11 0-2 SBO-11-0-2-101816 10/18/2016 Sample	SBO-12 0-2 SBO-12-0-2-101916 10/19/2016 Sample	SBO-12 0-2 DUP-02-101916FD 10/19/2016 Duplicate
Volatile Organic Compounds - SW846 8260C, mg/kg																
1,1,1-Trichloroethane	20	20	20	--	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	< 0.006	< 0.4	**0.088**	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	< 0.012	< 0.81	**0.059**	< 0.6	< 0.011	NA	**0.018**	< 0.01	**0.014**	NA	NA	NA
Acetone	400	400	400	--	**0.083**	< 1.6	**0.37**	< 1.2	**0.05**	NA	**0.094**	**0.057**	**0.099**	NA	NA	NA
Benzene	0.5	0.5	0.5	--	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Chloroethane	0.17	1.71	8.4	--	< 0.006	< 0.4	**0.35**	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7	7.0	--	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Cyclohexane	20	20	20	--	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Ethylbenzene	70	70	70	--	< 0.006	**3.1**	**0.007 JH**	< 0.3	< 0.005	NA	**0.02**	< 0.005	**0.012**	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Styrene	14	14	14	--	< 0.006	**0.51**	**0.036 JH**	**4.4**	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Toluene	100	100	100	--	< 0.006	< 0.4	**0.009**	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	< 0.006	< 0.4	< 0.006	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	< 0.006	**2.0**	**0.2**	< 0.3	< 0.005	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA
Xylenes, Total	1000	1000	1000	--	< 0.006	**8.5**	**0.013 JH**	< 0.3	< 0.005	NA	**0.022**	< 0.005	< 0.005	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
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[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
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EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

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Amec Foster Wheeler 6123-14-0242

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-13 0-2 SBO-13-0-2-101916 10/19/2016 Sample	SBO-14 0-2 SBO-14-0-2-102016 10/20/2016 Sample	SBO-15 0-2 SBO-15-0-2-101916 10/19/2016 Sample	SBO-16/21 0-2 SBO-16/21-0-2-102016 10/20/2016 Sample	SBO-17 0-2 SBO-17-0-2-102016 10/20/2016 Sample	SBO-18 0-2 SBO-18-0-2-102016 10/20/2016 Sample	SBO-19 0-2 SBO-19-0-2-101816 10/18/2016 Sample	SBO-20 0-2 SBO-20-0-2-101916 10/19/2016 Sample	SBO-20 0-2 DUP-03-101916FD 10/19/2016 Duplicate	SBO-22 0-2 SBO-22-0-2-102016 10/20/2016 Sample	SBO-23 0-2 SBO-23-0-2-101916 10/19/2016 Sample	SBO-24 0-2 SBO-24-0-2-102016 10/20/2016 Sample
Explosives - SW846 8330B, mg/kg																
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg																
Mercury	0.5	0.5	17	0.167	**0.811**	< 0.0958	< 0.112	< 0.101	NA	< 0.099	NA	NA	NA	NA	NA	NA
Metals, Total - SW846 6010C, mg/kg																
Barium	1000	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	100	100	1500	58.5	**467 J**	NA	NA	**72**	**43.4**	**34.6**	**8.79**	NA	NA	NA	NA	NA
Lead	125	75	400	125	**752 J**	**105**	**176 JH**	**245**	**71.5**	**88.1**	NA	**33**	NA	**102**	**246**	**74.6**
Nickel	50	50	420	16.3	**96.4 JL**	NA	NA	**12.4**	NA	**5.87**	NA	NA	NA	NA	**52.3**	NA
Zinc	126	291.9	2800	126	**1410 J**	NA	NA	**239**	**41.6**	**94.6**	**39.5**	NA	NA	**136**	**473**	NA
Metals, Total - SW846 6020A, mg/kg																
Antimony	4.0	4.0	10	3.96	**7.86 J**	NA	NA	**6.49**	NA	**0.981**	NA	NA	NA	**1.0**	**5.39**	NA
Arsenic	20	20	38.12	9.41	**146**	**31.4**	**14.7**	NA	NA	NA	NA	NA	NA	NA	NA	**21.5**
Beryllium	2.0	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	2.0	39	0.454	**4.88**	NA	NA	**1.58**	NA	**0.256**	NA	NA	NA	NA	NA	NA
Chromium	100	100	108.93	43.9	**147**	NA	NA	**27.8**	NA	**17.4**	NA	**22**	NA	NA	NA	NA
Selenium	2.0	2.0	36	0.957	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg																
PCB-1242	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248	1.55	1.55	1.55	--	< 0.91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254	1.55	1.55	1.55	--	**5.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg																
2,4-Dimethylphenol	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	1.64	--	**5.2**	NA	NA	**26**	NA	**0.13**	NA	NA	NA	**0.99**	NA	**0.12**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	NA	NA	**54**	NA	**0.29**	NA	NA	NA	**1.8**	NA	NA
Benzo(g,h,i)perylene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	5.0	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-13 0-2 SBO-13-0-2-101916 10/19/2016 Sample	SBO-14 0-2 SBO-14-0-2-102016 10/20/2016 Sample	SBO-15 0-2 SBO-15-0-2-101916 10/19/2016 Sample	SBO-16/21 0-2 SBO-16/21-0-2-102016 10/20/2016 Sample	SBO-17 0-2 SBO-17-0-2-102016 10/20/2016 Sample	SBO-18 0-2 SBO-18-0-2-102016 10/20/2016 Sample	SBO-19 0-2 SBO-19-0-2-101816 10/18/2016 Sample	SBO-20 0-2 SBO-20-0-2-101916 10/19/2016 Sample	SBO-20 0-2 DUP-03-101916FD 10/19/2016 Duplicate	SBO-22 0-2 SBO-22-0-2-102016 10/20/2016 Sample	SBO-23 0-2 SBO-23-0-2-101916 10/19/2016 Sample	SBO-24 0-2 SBO-24-0-2-102016 10/20/2016 Sample
Volatile Organic Compounds - SW846 8260C, mg/kg																
1,1,1-Trichloroethane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	0.17	1.71	8.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	7.0	7	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	< 0.005	NA	**0.087 J**	**19 J**	NA	NA	NA
Toluene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	< 0.005	NA	< 0.005	**0.54**	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	1000	1000	--	NA	NA	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] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 surface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
Bold = Detected Above the Laboratory Reporting Dectection Limit

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

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Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-25 0-2 SBO-25-0-2-101816 10/18/2016 Sample	SBO-26 0-2 SBO-26-0-2-101816 10/18/2016 Sample	SBO-27 0-2 SBO-27-0-2-101916 10/19/2016 Sample	SBO-28 0-2 SBO-28-0-2-102016 10/20/2016 Sample	SBO-29 0-2 SBO-29-0-2-101816 10/18/2016 Sample	SS-01 0-2 SS-01-0-2-022516 2/25/2016 Sample	SS-01 0-2 SS-DUP-2-022516FD 2/25/2016 Duplicate	SS-02 0-2 SS-02-0-2-022516 2/25/2016 Sample	SS-03 0-2 SS-03-0-2-022516 2/25/2016 Sample	SS-04 0-2 SS-04-0-2-022516 2/25/2016 Sample	SS-05 0-2 SS-05-0-2-022516 2/25/2016 Sample	SS-06 0-2 SS-06-0-2-022516 2/25/2016 Sample
Explosives - SW846 8330B, mg/kg																
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg																
Mercury	0.5	0.5	17	0.167	NA	NA	NA	NA	NA	**0.58**	**0.418**	< 0.235	< 0.215	< 0.221	< 0.22	< 0.214
Metals, Total - SW846 6010C, mg/kg																
Barium	1000	1000	1000	--	NA	NA	NA	NA	NA	**241**	**229**	**176**	**148 J**	**140**	**98.4**	**91.2**
Copper	100	100	1500	58.5	NA	**64.8**	NA	NA	NA	**107**	**118**	**151**	**55.1**	**62.5**	**117**	**156**
Lead	125	75	400	125	NA	NA	NA	NA	NA	**378**	**522**	**207**	**159**	**129**	**328**	**72.4**
Nickel	50	50	420	16.3	NA	NA	NA	NA	NA	**15.4**	**14.6**	**31.7**	**9.36**	**11.3**	**5.81**	**27.8**
Zinc	126	291.9	2800	126	**102**	**79.5**	NA	**57.5**	NA	**45.9**	**44.2**	**191**	**101 JL**	**111**	**192**	**80.8**
Metals, Total - SW846 6020A, mg/kg																
Antimony	4.0	4.0	10	3.96	NA	NA	NA	NA	NA	**12.3**	**25.7**	**4.65**	**1.65 JL**	**1.08**	**1.96**	**1.34**
Arsenic	20	20	38.12	9.41	NA	NA	**2.67**	NA	NA	**33.7**	**26.9**	**50**	**8.77**	**11.9**	**11.7**	**10.6**
Beryllium	2.0	24.72	161.52	--	NA	NA	NA	NA	**0.966**	**0.818**	**0.853**	**0.898**	**1.18 JL**	**0.726**	**0.554**	**0.464**
Cadmium	2.0	2.0	39	0.454	NA	NA	NA	NA	NA	**0.662**	**0.684**	**1.31**	**0.26**	**0.522**	**0.542**	< 0.21
Chromium	100	100	108.93	43.9	NA	NA	NA	NA	NA	**17.6**	**18.2**	**57.5**	**23.6**	**20.4**	**16**	**27.1**
Selenium	2.0	2.0	36	0.957	NA	NA	NA	NA	NA	**1.8**	**1.61**	< 0.837	< 0.79	**0.796**	< 0.869	< 0.841
Silver	2.0	2.0	10	--	NA	NA	NA	NA	NA	**0.248**	**0.296**	**0.306**	< 0.197	< 0.186	**0.647**	< 0.21
Thallium	2.0	2.0	10	--	NA	NA	NA	NA	NA	< 0.211	< 0.231	**0.233**	**0.329**	< 0.186	**0.241**	**0.215**
Polychlorinated Biphenyls - SW846 8082A, mg/kg																
PCB-1242	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	< 0.021	< 0.02	< 0.21	< 0.019	< 0.02	< 0.02	< 0.95
PCB-1248	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	< 0.021	< 0.02	**0.41**	< 0.019	< 0.02	< 0.02	< 0.95
PCB-1254	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	< 0.021	< 0.02	**0.4**	**0.038**	**0.049**	< 0.02	< 0.95
PCB-1260	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	< 0.021	< 0.02	< 0.21	< 0.019	**0.031**	< 0.02	< 0.95
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg																
2,4-Dimethylphenol	70	70	70	--	NA	NA	NA	NA	NA	< 0.041	< 0.2	< 0.04	< 0.037 UL	< 0.39	< 0.039	< 0.038
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	NA	NA	NA	NA	**0.96**	**0.97**	**0.48**	**0.071**	**1.0**	**0.1**	**0.044**
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	NA	NA	NA	NA	NA	< 0.041	< 0.2	< 0.04	< 0.037	< 0.39	< 0.039	< 0.038
4-Chloroaniline	10	10	10	--	NA	NA	NA	NA	NA	< 0.082	< 0.4	< 0.08	< 0.075	< 0.77	< 0.078	< 0.075
Acenaphthene	300	300	300	--	NA	NA	NA	NA	NA	< 0.021	< 0.1	**0.047**	< 0.019	< 0.2	< 0.02	< 0.019
Acenaphthylene	130	130	130	--	NA	NA	NA	NA	NA	**0.045**	< 0.1	**0.14**	< 0.019	< 0.2	< 0.02	< 0.019
Acetophenone	400	400	400	--	NA	NA	NA	NA	NA	**0.082**	< 0.2	**0.068**	< 0.037	< 0.39	< 0.039	< 0.038
Anthracene	500	500	1000	--	NA	NA	NA	NA	NA	**0.065**	< 0.1	**0.22**	< 0.019	< 0.2	< 0.02	< 0.019
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	**0.2**	**0.17**	**0.74**	**0.048**	**0.28**	**0.043**	**0.063**
Benzo(a)pyrene	1.64	1.64	1.64	--	NA	NA	NA	NA	NA	**0.16**	< 0.1	**0.76**	**0.044**	**0.25**	**0.037**	**0.047**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	**0.23**	**0.18**	**1.2**	**0.068**	**0.41**	**0.06**	**0.13**
Benzo(g,h,i)perylene	500	500	500	--	NA	NA	NA	NA	NA	**0.18**	**0.15**	**0.64**	**0.045**	**0.26**	**0.041**	**0.07**
Benzo(k)fluoranthene	5.0	13.71	46	--	NA	NA	NA	NA	NA	**0.085**	< 0.1	**0.48**	**0.027**	< 0.2	< 0.02	**0.028**
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	NA	NA	NA	< 0.18	< 0.21	< 1.0	**0.35**	< 0.19	< 2.0	< 0.2	< 0.19
Butyl benzyl phthalate	50	50	50	--	NA	NA	NA	NA	NA	< 0.21	< 1.0	< 0.2	< 0.19	< 1.9	< 0.2	< 0.19
Chrysene	5.0	42	140	--	NA	NA	NA	NA	NA	**0.36**	**0.3**	**0.84**	**0.082**	**0.51**	**0.061**	**0.12**
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	NA	NA	NA	NA	**0.05**	< 0.1	**0.19**	< 0.019	< 0.2	< 0.02	**0.021**
Diethyl phthalate	500	500	500	--	NA	NA	NA	NA	NA	< 0.21	< 1.0	< 0.2	< 0.19	< 1.9	< 0.2	< 0.19
Dimethyl phthalate	40000	40000	40000	--	NA	NA	NA	NA	NA	< 0.21	< 1.0	< 0.2	< 0.19	< 1.9	< 0.2	< 0.19
Fluoranthene	500	500	500	--	NA	NA	NA	NA	NA	**0.2**	**0.17**	**0.97**	**0.065**	**0.39**	**0.061**	**0.13**
Fluorene	360	360	360	--	NA	NA	NA	NA	NA	**0.028**	< 0.1	**0.03**	< 0.019	< 0.2	< 0.02	< 0.019
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	NA	NA	NA	NA	**0.086**	< 0.1	**0.56**	**0.033**	< 0.2	**0.033**	**0.047**
Naphthalene	100	100	100	--	NA	NA	NA	NA	NA	**0.59**	**0.58**	**0.34**	**0.048**	**0.66**	**0.08**	**0.029**
Phenanthrene	110	110	110	--	NA	NA	NA	NA	NA	**0.89**	**0.73**	**0.7**	**0.089**	**1.0**	**0.089**	**0.1**
Phenol	400	400	400	--	NA	NA	NA	NA	NA	< 0.041	< 0.2	< 0.04	< 0.037	< 0.39	< 0.039	< 0.038
Pyrene	500	500	500	--	NA	NA	NA	NA	NA	**0.27**	**0.22**	**0.99**	**0.065**	**0.43**	**0.064**	**0.09**

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Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-25 0-2 SBO-25-0-2-101816 10/18/2016 Sample	SBO-26 0-2 SBO-26-0-2-101816 10/18/2016 Sample	SBO-27 0-2 SBO-27-0-2-101916 10/19/2016 Sample	SBO-28 0-2 SBO-28-0-2-102016 10/20/2016 Sample	SBO-29 0-2 SBO-29-0-2-101816 10/18/2016 Sample	SS-01 0-2 SS-01-0-2-022516 2/25/2016 Sample	SS-01 0-2 SS-DUP-2-022516FD 2/25/2016 Duplicate	SS-02 0-2 SS-02-0-2-022516 2/25/2016 Sample	SS-03 0-2 SS-03-0-2-022516 2/25/2016 Sample	SS-04 0-2 SS-04-0-2-022516 2/25/2016 Sample	SS-05 0-2 SS-05-0-2-022516 2/25/2016 Sample	SS-06 0-2 SS-06-0-2-022516 2/25/2016 Sample
Volatile Organic Compounds - SW846 8260C, mg/kg																
1,1,1-Trichloroethane	20	20	20	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	**0.007 JH**	**1.1 JL**	< 0.009	< 0.005	< 0.27
1,1-Dichloroethane	400	400	400	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	NA	NA	NA	NA	< 0.014	< 0.011	< 0.013	< 0.55	< 0.018	< 0.009	< 0.55
Acetone	400	400	400	--	NA	NA	NA	NA	NA	< 0.028	< 0.023	**0.055 JH**	< 1.1	< 0.035	< 0.019	< 1.1
Benzene	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Chloroethane	0.17	1.71	8.4	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
cis-1,2-Dichloroethene	7.0	7	7.0	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Cyclohexane	20	20	20	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Ethylbenzene	70	70	70	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Styrene	14	14	14	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	NA	NA	NA	< 0.006	NA	**0.021 JH**	**0.006 JH**	**0.35 JH**	**33 J**	**0.08**	**0.11**	**21**
Toluene	100	100	100	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	NA	NA	< 0.006	NA	< 0.007	< 0.006	**0.009 JH**	**0.77 JL**	< 0.009	< 0.005	< 0.27
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27
Xylenes, Total	1000	1000	1000	--	NA	NA	NA	NA	NA	< 0.007	< 0.006	< 0.006	< 0.27	< 0.009	< 0.005	< 0.27

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 surface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
Bold = Detected Above the Laboratory Reporting Dectection Limit

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

VRP Status Report No. 1
Former E. Cohn Property - Columbus, GA
HSI Site No. 10933
Amec Foster Wheeler 6123-14-0242

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SS-07 0-2 SS-07-0-2-022416 2/24/2016 Sample	SS-08 0-2 SS-08-0-2-022416 2/24/2016 Sample	SS-09 0-2 SS-09-0-2-022416 2/24/2016 Sample	SS-09 0-2 SS-09-0-2 DUP-022416 2/24/2016 Duplicate	SS-10 0-2 SS-10-0-2-022416 2/24/2016 Sample	SS-11 0-2 SS-11-0-2-022416 2/24/2016 Sample	SS-12 0-2 SS-12-0-2-022416 2/24/2016 Sample	SS-12 0-2 SS-DUP-01-022416FD 2/24/2016 Duplicate	SS-13 0-2 SS-13-0-2-022416 2/24/2016 Sample	SS-14 0-2 SS-14-0-2-022516 2/26/2016 Sample	SS-15 0-2 SS-15-0-2-022316 2/23/2016 Sample	SS-16 0-2 SS-16-0-2-022516 2/26/2016 Sample
Explosives - SW846 8330B, mg/kg																
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.13	NA
Mercury, Total - SW846 7471B, mg/kg																
Mercury	0.5	0.5	17	0.167	< 0.218	< 0.214	< 0.23	NA	< 0.214	< 0.222	< 0.226	< 0.225	**0.669**	**2.46**	**1.11**	**0.409**
Metals, Total - SW846 6010C, mg/kg																
Barium	1000	1000	1000	--	**153**	**61.4**	**137**	NA	**112**	**146**	**185**	**181**	**160**	**970**	**193**	**232**
Copper	100	100	1500	58.5	**99**	**39.1**	**50.7**	NA	**97.5**	**81.3**	**80.4**	**66.4**	**1370**	**3780**	**660**	**986**
Lead	125	75	400	125	**177**	**37.8**	**61**	NA	**146**	**152**	**107**	**134**	**357**	**847**	**846**	**568**
Nickel	50	50	420	16.3	**13.6**	**6.07**	**8.47**	NA	**47.4**	**14.8**	**9.66**	**9.52**	**215**	**247**	**170**	**55.5**
Zinc	126	291.9	2800	126	**132**	**58.7**	**77.6**	NA	**309**	**270**	**155**	**190**	**571**	**2480**	**1320**	**1940**
Metals, Total - SW846 6020A, mg/kg																
Antimony	4.0	4.0	10	3.96	**1.9**	< 0.448	**1.4**	NA	**3.3**	**2.04**	**1.49**	**1.7**	**5.05**	**44.2**	**32.7**	**4.48**
Arsenic	20	20	38.12	9.41	**9.85**	**2.6**	**92.2**	NA	**16.6**	**7.19**	**14.8**	**10.4**	**10.1**	**23.6**	**11.6**	**15.4**
Beryllium	2.0	24.72	161.52	--	**0.681**	**0.398**	**0.607**	NA	**0.573**	**0.819**	**0.789**	**0.74**	**0.484**	**0.309**	**0.354**	**1.37**
Cadmium	2.0	2.0	39	0.454	**0.443**	< 0.224	**0.278**	NA	**1.43**	**1.0**	**0.727**	**0.814**	**4.19**	**5.92**	**4.94**	**4.31**
Chromium	100	100	108.93	43.9	**29.7**	**12.8**	**19.3**	NA	**46.8**	**22.2**	**19**	**19**	**483**	**510**	**248**	**88.4**
Selenium	2.0	2.0	36	0.957	< 0.705	< 0.895	< 0.899	NA	< 0.873	< 0.909	< 0.882	< 0.921	< 0.936	< 0.66	< 0.924	< 0.722
Silver	2.0	2.0	10	--	**0.258**	< 0.224	< 0.225	NA	< 0.218	< 0.227	< 0.221	< 0.23	**0.319**	**1.13**	**0.98**	**0.379**
Thallium	2.0	2.0	10	--	**0.299**	< 0.224	**0.249**	NA	< 0.218	< 0.227	**0.226**	< 0.23	< 0.234	< 0.825	< 1.15	< 0.18
Polychlorinated Biphenyls - SW846 8082A, mg/kg																
PCB-1242	1.55	1.55	1.55	--	< 0.094	< 0.019	< 0.2	NA	< 1.9	< 0.2	< 0.097	< 0.02	< 9.9	< 1.9	< 0.4	< 0.4
PCB-1248	1.55	1.55	1.55	--	< 0.094	< 0.019	< 0.2	NA	< 1.9	**1.4**	< 0.097	< 0.02	< 9.9	**14**	**4.4**	< 0.4
PCB-1254	1.55	1.55	1.55	--	**0.97**	**0.035**	< 0.2	NA	< 1.9	**0.71**	< 0.097	**0.028 J**	< 9.9	**8.0**	**4.9**	**2.9**
PCB-1260	1.55	1.55	1.55	--	< 0.094	< 0.019	< 0.2	NA	< 1.9	< 0.2	< 0.097	**0.033**	< 9.9	< 1.9	< 0.4	**1.4**
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg																
2,4-Dimethylphenol	70	70	70	--	< 0.037	< 0.038	< 0.038	NA	< 0.037	< 0.038	< 0.95	< 0.98	< 0.96	< 0.19	< 0.98	< 0.19
2-Methylnaphthalene	1.0	1.0	2.11	--	**0.31**	< 0.019	**0.78**	NA	**0.7**	**0.23**	< 0.48	< 0.5	< 0.49	**0.11**	< 0.5	**0.1**
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	< 0.037	< 0.038	< 0.038	NA	< 0.037	< 0.038	< 0.95	< 0.98	< 0.96	< 0.19	< 0.98	< 0.19
4-Chloroaniline	10	10	10	--	< 0.073	< 0.075	< 0.077	NA	< 0.074	< 0.077	< 1.9	< 2.0	< 1.9	< 0.39	< 2.0	< 0.39
Acenaphthene	300	300	300	--	< 0.019	< 0.019	< 0.02	NA	**0.11**	< 0.02	< 0.48	< 0.5	< 0.49	**0.21**	< 0.5	< 0.099
Acenaphthylene	130	130	130	--	< 0.019	< 0.019	< 0.02	NA	**0.029**	< 0.02	< 0.48	< 0.5	**1.1**	**0.12**	< 0.5	< 0.099
Acetophenone	400	400	400	--	< 0.037	< 0.038	**0.068**	NA	< 0.037	< 0.038	< 0.95	< 0.98	< 0.96	< 0.19	< 0.98	< 0.19
Anthracene	500	500	1000	--	**0.028**	< 0.019	**0.036**	NA	**0.12**	**0.053**	< 0.48	< 0.5	**1.0**	**0.67**	**1.2**	**0.16**
Benzo(a)anthracene	5.0	5.0	5.0	--	**0.11**	**0.093**	**0.13**	NA	**1.3**	**0.2**	< 0.48	< 0.5	**3.9**	**2.0**	**3.9**	**0.31**
Benzo(a)pyrene	1.64	1.64	1.64	--	**0.16**	**0.092**	**0.11**	NA	**3.1**	**0.28**	< 0.48	< 0.5	**5.7**	**2.2**	**3.7**	**0.48**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	**0.24**	**0.14**	**0.18**	NA	**3.5**	**0.34**	**0.52**	< 0.5	**8.8**	**3.1**	**5.3**	**0.66**
Benzo(g,h,i)perylene	500	500	500	--	**0.17**	**0.076**	**0.14**	NA	**3.8**	**0.3**	**0.5**	< 0.5	**4.8**	**1.8**	**2.5**	**0.51**
Benzo(k)fluoranthene	5.0	13.71	46	--	**0.098**	**0.05**	**0.065**	NA	**1.4**	**0.13**	< 0.48	< 0.5	**3.7**	**1.1**	**2.2**	**0.32**
bis(2-Ethylhexyl)phthalate	50	50	50	--	< 0.19	< 0.19	< 0.2	NA	< 0.19	< 0.2	< 4.8	< 5.0	< 4.9	**5.0**	< 5.0	< 0.99
Butyl benzyl phthalate	50	50	50	--	< 0.18	< 0.19	< 0.19	NA	< 0.18	< 0.19	< 4.7	< 4.9	< 4.8	< 0.97	< 4.9	< 0.97
Chrysene	5.0	42	140	--	**0.2**	**0.079**	**0.17**	NA	**1.4**	**0.22**	< 0.48	< 0.5	**4.2**	**1.9**	**3.9**	**0.34**
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	**0.079**	< 0.019	**0.05**	NA	**0.79**	**0.027**	< 0.48	< 0.5	**1.8**	**0.41**	**0.94**	**0.12**
Diethyl phthalate	500	500	500	--	< 0.18	< 0.19	< 0.19	NA	< 0.18	< 0.19	< 4.7	< 4.9	< 4.8	< 0.97	< 4.9	< 0.97
Dimethyl phthalate	40000	40000	40000	--	< 0.18	< 0.19	< 0.19	NA	< 0.18	< 0.19	< 4.7	< 4.9	< 4.8	**2.4**	< 4.9	< 0.97
Fluoranthene	500	500	500	--	**0.13**	**0.13**	**0.17**	NA	**1.2**	**0.31**	< 0.48	< 0.5	**3.6**	**3.3**	**9.6**	**0.57**
Fluorene	360	360	360	--	< 0.019	< 0.019	< 0.02	NA	**0.035**	< 0.02	< 0.48	< 0.5	< 0.49	**0.2**	**0.75**	< 0.099
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	**0.11**	**0.067**	**0.1**	NA	**3.0**	**0.24**	< 0.48	< 0.5	**4.4**	**1.7**	**2.5**	**0.45**
Naphthalene	100	100	100	--	**0.25**	< 0.019	**0.63**	NA	**0.59**	**0.21**	< 0.48	< 0.5	< 0.49	**0.11**	< 0.5	**0.11**
Phenanthrene	110	110	110	--	**0.24**	**0.05**	**0.44**	NA	**0.67**	**0.25**	< 0.48	< 0.5	**0.65**	**2.1**	**8.1**	**0.42**
Phenol	400	400	400	--	< 0.037	< 0.038	< 0.038	NA	< 0.037	< 0.038	< 0.95	< 0.98	< 0.96	< 0.19	**1.6**	< 0.19
Pyrene	500	500	500	--	**0.16**	**0.15**	**0.18**	NA	**1.4**	**0.33**	< 0.48	< 0.5	**5.3**	**3.2**	**7.6**	**0.59**

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SS-07 0-2 SS-07-0-2-022416 2/24/2016 Sample	SS-08 0-2 SS-08-0-2-022416 2/24/2016 Sample	SS-09 0-2 SS-09-0-2-022416 2/24/2016 Sample	SS-09 0-2 SS-09-0-2 DUP-022416 2/24/2016 Duplicate	SS-10 0-2 SS-10-0-2-022416 2/24/2016 Sample	SS-11 0-2 SS-11-0-2-022416 2/24/2016 Sample	SS-12 0-2 SS-12-0-2-022416 2/24/2016 Sample	SS-12 0-2 SS-DUP-01-022416FD 2/24/2016 Duplicate	SS-13 0-2 SS-13-0-2-022416 2/24/2016 Sample	SS-14 0-2 SS-14-0-2-022516 2/26/2016 Sample	SS-15 0-2 SS-15-0-2-022316 2/23/2016 Sample	SS-16 0-2 SS-16-0-2-022516 2/26/2016 Sample
Volatile Organic Compounds - SW846 8260C, mg/kg																
1,1,1-Trichloroethane	20	20	20	--	**0.013**	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
1,1-Dichloroethane	400	400	400	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	200	--	< 0.01	< 0.008	< 0.01	NA	< 0.009	< 0.009	< 0.6	< 0.55	< 0.69	< 0.013	**0.024**	< 0.009
Acetone	400	400	400	--	< 0.019	**0.037**	**0.029**	NA	< 0.019	**0.05**	< 1.2	< 1.1	< 1.4	**0.04**	**0.18**	**0.033 JH**
Benzene	0.5	0.5	0.5	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
Chloroethane	0.17	1.71	8.4	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
cis-1,2-Dichloroethene	7.0	7	7.0	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
Cyclohexane	20	20	20	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	**0.37**	< 0.007	< 0.005	< 0.005
Ethylbenzene	70	70	70	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
Styrene	14	14	14	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	**38**	**0.009 J**	**0.018 J**	NA	**0.023 J**	**0.047 J**	**1.7 J**	**3.0 J**	< 0.34	< 0.007	< 0.005	< 0.005
Toluene	100	100	100	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	**1.2 J**	< 0.28 UJ	**1.2**	< 0.007	< 0.005	< 0.005
Trichloroethene (TCE)	0.5	0.5	0.5	--	**0.03**	< 0.004	< 0.005	NA	**0.01 J**	< 0.005 UJ	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	200	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	< 0.3	< 0.28	< 0.34	< 0.007	< 0.005	< 0.005
Xylenes, Total	1000	1000	1000	--	< 0.005	< 0.004	< 0.005	NA	< 0.005	< 0.005	**1.3**	< 0.28	**1.3**	< 0.007	< 0.005	< 0.005

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 surface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
Bold = Detected Above the Laboratory Reporting Dectection Limit

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SS-17 0-2 SS-17-0-2-022516 2/26/2016 Sample	SS-18 0-2 SS-18-0-2-022516 2/26/2016 Sample	SS-19 0-2 SS-19-0-2-022516 2/26/2016 Sample	SS-20 0-2 SS-20-0-2-022516 2/26/2016 Sample
Explosives - SW846 8330B, mg/kg								
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg								
Mercury	0.5	0.5	17	0.167	< 0.215	**0.279**	< 0.21	< 0.209
Metals, Total - SW846 6010C, mg/kg								
Barium	1000	1000	1000	--	**60.7**	**478**	**79.9**	**103**
Copper	100	100	1500	58.5	**10.9**	**32**	**98.4**	**106**
Lead	125	75	400	125	**10.2**	**84.7**	**131**	**114**
Nickel	50	50	420	16.3	**3.08**	**4.83**	**19.8**	**20.4**
Zinc	126	291.9	2800	126	**20.4**	**108**	**178**	**140**
Metals, Total - SW846 6020A, mg/kg								
Antimony	4.0	4.0	10	3.96	< 0.425	**0.862**	**1.6**	**1.41**
Arsenic	20	20	38.12	9.41	**2.38**	**7.12**	**2.36**	**5.28**
Beryllium	2.0	24.72	161.52	--	**0.473**	**4.38**	< 0.216	**0.458**
Cadmium	2.0	2.0	39	0.454	< 0.212	**0.834**	**0.699**	**0.808**
Chromium	100	100	108.93	43.9	**6.49**	**8.98**	**23.1**	**29.8**
Selenium	2.0	2.0	36	0.957	< 0.85	< 0.965	< 0.862	< 0.682
Silver	2.0	2.0	10	--	< 0.212	< 0.241	< 0.216	< 0.171
Thallium	2.0	2.0	10	--	< 0.212	**0.483**	< 0.216	< 0.853
Polychlorinated Biphenyls - SW846 8082A, mg/kg								
PCB-1242	1.55	1.55	1.55	--	< 0.019	< 0.11	< 0.094	< 0.93
PCB-1248	1.55	1.55	1.55	--	< 0.019	< 0.11	**0.48**	< 0.93
PCB-1254	1.55	1.55	1.55	--	< 0.019	**0.52**	**0.85**	< 0.93
PCB-1260	1.55	1.55	1.55	--	< 0.019	**0.22**	< 0.094	< 0.93
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg								
2,4-Dimethylphenol	70	70	70	--	< 0.037	< 0.042	< 0.037	< 0.036
2-Methylnaphthalene	1.0	1.0	2.11	--	< 0.019	**0.046**	**0.024**	**0.32**
3+4-Methylphenol (m,p-Cresol)	3.8	3.8	4.2	--	< 0.037	< 0.042	< 0.037	< 0.036
4-Chloroaniline	10	10	10	--	< 0.075	< 0.084	< 0.074	< 0.072
Acenaphthene	300	300	300	--	< 0.019	< 0.021	< 0.019	< 0.018
Acenaphthylene	130	130	130	--	< 0.019	< 0.021	**0.02**	**0.043**
Acetophenone	400	400	400	--	< 0.037	< 0.042	< 0.037	< 0.036
Anthracene	500	500	1000	--	< 0.019	**0.026**	**0.046**	**0.078**
Benzo(a)anthracene	5.0	5.0	5.0	--	< 0.019	**0.041**	**0.081 JH**	**0.12**
Benzo(a)pyrene	1.64	1.64	1.64	--	< 0.019	**0.061 JH**	**0.11 JH**	**0.24**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	< 0.019	**0.1 JH**	**0.23 JH**	**0.58**
Benzo(g,h,i)perylene	500	500	500	--	< 0.019	**0.076 JH**	**0.14 JH**	**0.26**
Benzo(k)fluoranthene	5.0	13.71	46	--	< 0.019	< 0.021	**0.061 JH**	**0.17**
bis(2-Ethylhexyl)phthalate	50	50	50	--	< 0.19	**58**	**0.23 JH**	**0.2**
Butyl benzyl phthalate	50	50	50	--	< 0.19	< 0.21	< 0.19	< 0.18
Chrysene	5.0	42	140	--	< 0.019	**0.061**	**0.09 JH**	**0.23**
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	< 0.019	**0.026 JH**	< 0.019	**0.056**
Diethyl phthalate	500	500	500	--	< 0.19	< 0.21	< 0.19	< 0.18
Dimethyl phthalate	40000	40000	40000	--	< 0.19	< 0.21	< 0.19	< 0.18
Fluoranthene	500	500	500	--	< 0.019	**0.064**	**0.11**	**0.17**
Fluorene	360	360	360	--	< 0.019	< 0.021	< 0.019	< 0.018
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	< 0.019	**0.099 JH**	**0.16 JH**	**0.23**
Naphthalene	100	100	100	--	< 0.019	**0.031**	**0.02**	**0.3**
Phenanthrene	110	110	110	--	< 0.019	**0.063**	**0.068**	**0.1**
Phenol	400	400	400	--	< 0.037	< 0.042	< 0.037	< 0.036
Pyrene	500	500	500	--	< 0.019	**0.074**	**0.13 JH**	**0.28**

Table 1: Summary of Surface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SS-17 0-2 SS-17-0-2-022516 2/26/2016 Sample	SS-18 0-2 SS-18-0-2-022516 2/26/2016 Sample	SS-19 0-2 SS-19-0-2-022516 2/26/2016 Sample	SS-20 0-2 SS-20-0-2-022516 2/26/2016 Sample
Volatile Organic Compounds - SW846 8260C, mg/kg								
1,1,1-Trichloroethane	20	20	20	--	< 0.004	< 0.006	< 0.005	< 0.005
1,1-Dichloroethane	400	400	400	--	< 0.004	< 0.006	< 0.005	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	200	--	**0.01**	< 0.012	< 0.011	< 0.009
Acetone	400	400	400	--	< 0.017	< 0.023	< 0.022	**0.055**
Benzene	0.5	0.5	0.5	--	< 0.004	< 0.006	**0.006 JH**	< 0.005
Chloroethane	0.17	1.71	8.4	--	< 0.004	< 0.006	< 0.005	< 0.005
cis-1,2-Dichloroethene	7.0	7	7.0	--	< 0.004	< 0.006	< 0.005	< 0.005
Cyclohexane	20	20	20	--	< 0.004	< 0.006	< 0.005	< 0.005
Ethylbenzene	70	70	70	--	< 0.004	< 0.006	< 0.005	< 0.005
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	< 0.004	< 0.006	< 0.005	< 0.005
Styrene	14	14	14	--	< 0.004	< 0.006	< 0.005	< 0.005
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	< 0.004	< 0.006	< 0.005	< 0.005
Toluene	100	100	100	--	< 0.004	< 0.006	< 0.005	< 0.005
Trichloroethene (TCE)	0.5	0.5	0.5	--	< 0.004	< 0.006	< 0.005	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	200	--	< 0.004	< 0.006	< 0.005	< 0.005
Xylenes, Total	1000	1000	1000	--	< 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] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 surface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
Bold = Detected Above the Laboratory Reporting Dectection Limit

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	BK-01 2-4 BK-1-2-4-062316 6/23/2016 Sample	BK-02 2-4 BK-2-2-4-062316 6/23/2016 Sample	BK-03 2-4 BK-3-2-4-062316 6/23/2016 Sample	BK-03 2-4 BK-DUP2-062316 6/23/2016 Duplicate	BK-04 2-4 BK-4-2-4-062316 6/23/2016 Sample	BK-07 2-4 BK-7-2-4-062316 6/23/2016 Sample	BK-08 2-4 BK-8-2-4-062316 6/23/2016 Sample	BK-09 2-4 BK-9-2-4-062316 6/23/2016 Sample	BK-10 2-4 BK-10-2-4-062316 6/23/2016 Sample	BK-10 2-4 BK-DUP4-062316 6/23/2016 Duplicate
Explosives - SW846 8330B, mg/kg														
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg														
Mercury	0.5	0.5	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	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	100	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	125	75	400	125	**25.8**	**14.7**	**18.6**	**17.1**	**72.2**	**5.9**	**44.3**	**8.75**	**9.66**	**8.96**
Nickel	50	50	420	16.3	**11.9**	**13.7**	**15.7**	**15.7**	**5.82**	**10.8**	**17**	**9.72**	**12.6**	**10.7**
Zinc	126	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	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	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	2.0	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	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	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	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	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	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	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260	1.55	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	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.80	3.8	3.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	1.64	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46.06	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	5.0	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	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	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	0.17	1.71	8.37	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	BK-01 2-4 BK-1-2-4-062316 6/23/2016 Sample	BK-02 2-4 BK-2-2-4-062316 6/23/2016 Sample	BK-03 2-4 BK-3-2-4-062316 6/23/2016 Sample	BK-03 2-4 BK-DUP2-062316 6/23/2016 Duplicate	BK-04 2-4 BK-4-2-4-062316 6/23/2016 Sample	BK-07 2-4 BK-7-2-4-062316 6/23/2016 Sample	BK-08 2-4 BK-8-2-4-062316 6/23/2016 Sample	BK-09 2-4 BK-9-2-4-062316 6/23/2016 Sample	BK-10 2-4 BK-10-2-4-062316 6/23/2016 Sample	BK-10 2-4 BK-DUP4-062316 6/23/2016 Duplicate
cis-1,2-Dichloroethene	7.0	7.0	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	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] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 subsurface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
BOLD = DETECTED ABOVE THE LABORATORY REPORTING DETECTION LIMIT

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	DT-02-120 2-3 DT-2-120-2-3-062316 6/23/2016 Sample	DT-03-40 2-4 DT-3-40-2-4-062316 6/23/2016 Sample	DT-04-50 2-4 DT-4-50-2-4-062216 6/22/2016 Sample	DT-05-50 2-4 DT-5-50-2-4-062216 6/22/2016 Sample	DT-06-35 2-4 DT-6-35-2-4-062116 6/21/2016 Sample	DT-08-Offset 2-4 DT-8-2-4-062316_OFFSET 6/23/2016 Sample	DT-09-105 2-4 DT-9-105-2-4-062316 6/23/2016 Sample	DT-10B 2-3.5 DT-10B-2-3.5-062216 6/22/2016 Sample	DT-11B 2-4 DT-11B-2-4-062216 6/22/2016 Sample	DT-12B 2-4 DT-12B-2-4-062216 6/22/2016 Sample
Explosives - SW846 8330B, mg/kg														
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg														
Mercury	0.5	0.5	17	0.167	NA	NA	NA	NA	NA	**0.124**	NA	**0.144**	NA	NA
Metals, Total - SW846 6010C, mg/kg														
Barium	1000	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	100	100	1500	58.5	NA	NA	**23.3**	NA	**30.3**	NA	NA	**42.8**	NA	**24.4**
Lead	125	75	400	125	**85**	**33.1**	**21.7**	**25.3**	**52**	NA	NA	**64.9**	**11.5**	**17.3**
Nickel	50	50	420	16.3	**7.37**	**18**	NA	NA	**10.7**	NA	NA	**9.88**	NA	**19.9**
Zinc	126	291.9	2800	126	NA	NA	**76.4**	NA	NA	NA	**80.7**	**109**	NA	NA
Metals, Total - SW846 6020A, mg/kg														
Antimony	4.0	4.0	10	3.96	**4.56**	**1.17**	< 0.465	< 0.317	NA	NA	NA	< 0.4	NA	< 0.436
Arsenic	20	20	41	9.41	NA	NA	**5.36**	NA	NA	NA	**4.88**	**5.56**	NA	NA
Beryllium	2.0	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	2.0	39	0.454	< 0.2	< 0.238	< 0.232	< 0.159	NA	NA	< 0.217	**0.218**	NA	< 0.218
Chromium	100	100	1200	43.9	**19.5**	**121**	**42.1**	NA	**16.5**	NA	NA	**26.5**	NA	**37**
Selenium	2.0	2.0	36	0.957	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	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	1.55	--	< 0.018	< 0.02	< 0.02	NA	< 0.019	NA	< 0.019	< 0.019	< 0.018	NA
PCB-1248	1.55	1.55	1.55	--	< 0.018	< 0.02	< 0.02	NA	< 0.019	NA	< 0.019	< 0.019	< 0.018	NA
PCB-1254	1.55	1.55	1.55	--	< 0.018	< 0.02	< 0.02	NA	**0.062 JH**	NA	< 0.019	< 0.019	< 0.018	NA
PCB-1260	1.55	1.55	1.55	--	< 0.018	< 0.02	< 0.02	NA	< 0.019	NA	< 0.019	< 0.019	< 0.018	NA
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg														
2,4-Dimethylphenol	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.80	3.8	3.8	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	1.64	--	**0.024**	NA	< 0.02	NA	**0.25**	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46.06	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	5.0	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	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	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	0.17	1.71	8.37	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	DT-02-120 2-3 DT-2-120-2-3-062316 6/23/2016 Sample	DT-03-40 2-4 DT-3-40-2-4-062316 6/23/2016 Sample	DT-04-50 2-4 DT-4-50-2-4-062216 6/22/2016 Sample	DT-05-50 2-4 DT-5-50-2-4-062216 6/22/2016 Sample	DT-06-35 2-4 DT-6-35-2-4-062116 6/21/2016 Sample	DT-08-Offset 2-4 DT-8-2-4-062316_OFFSET 6/23/2016 Sample	DT-09-105 2-4 DT-9-105-2-4-062316 6/23/2016 Sample	DT-10B 2-3.5 DT-10B-2-3.5-062216 6/22/2016 Sample	DT-11B 2-4 DT-11B-2-4-062216 6/22/2016 Sample	DT-12B 2-4 DT-12B-2-4-062216 6/22/2016 Sample
cis-1,2-Dichloroethene	7.0	7.0	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	**0.009**	NA	NA	NA	NA	NA
Toluene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	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] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 subsurface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
BOLD = DETECTED ABOVE THE LABORATORY REPORTING DETECTION LIMIT

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: / Sample Depth (ft.): / Sample ID: / Sample Date: / Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	MW-01 6-8 MW-1-6-8-022516 2/25/2016 Sample	MW-01 12-14 MW-1-12-14-022516 2/25/2016 Sample	MW-02 2-4 MW-2-2-4-022516 2/25/2016 Sample	MW-02 6-8 MW-2-6-8-022516 2/25/2016 Sample	MW-02 12-14 MW-2-12-14-022516 2/25/2016 Sample	MW-03 2-4 MW-3-2-4-022416 2/24/2016 Sample	MW-03 6-8 MW-3-6-8-022416 2/24/2016 Sample	MW-03 12-14 MW-3-12-14-022416 2/24/2016 Sample	MW-04 2-4 MW-4-2-4-022316 2/23/2016 Sample	MW-04 12-14 MW-4-12-14-022316 2/23/2016 Sample	SBO-01 2-4 SBO-01-2-4-022616 2/26/2016 Sample
Explosives - SW846 8330B, mg/kg															
4-Nitrotoluene	1.12	1.12	1.12	--	< 0.13	< 0.12	< 0.13	< 0.13	< 0.12	< 0.13	< 0.13	< 0.12	**0.19**	< 0.12	< 0.14
Mercury, Total - SW846 7471B, mg/kg															
Mercury	0.5	0.5	17	0.167	< 0.221	< 0.197	< 0.219	< 0.219	< 0.205	**1.96**	< 0.208	< 0.211	**0.422**	< 0.2	**0.48**
Metals, Total - SW846 6010C, mg/kg															
Barium	1000	1000	1000	--	**69**	**10.5**	**383**	**57.6**	**17.2**	**505**	**105**	**35.8**	**217**	**16.2**	**213**
Copper	100	100	1500	58.5	**17.3**	**2.47**	**258**	**23.6**	**5.77**	**655**	**114**	**11.5**	**227**	**8.47**	**572**
Lead	125	75	400	125	**5.65**	< 2.35	**1170**	**7.03**	< 2.98	**2450**	**152**	**4.0**	**531**	< 3.01	**648**
Nickel	50	50	420	16.3	**5.89**	< 1.57	**92**	**7.33**	< 1.98	**191**	**23.6**	**3.5**	**153**	**3.31**	**137**
Zinc	126	291.9	2800	126	**28.1**	**3.58**	**2820**	**34.1**	**7.33**	**8680**	**650**	**15.8**	**1430**	**9.22**	**2160**
Metals, Total - SW846 6020A, mg/kg															
Antimony	4.0	4.0	10	3.96	< 0.376	< 0.313	**3.6**	< 0.402	< 0.397	**29.3**	**1.22**	< 0.368	**9.68**	< 0.402	**5.41**
Arsenic	20	20	41	9.41	**1.73**	< 0.627	**16.8**	**1.85**	< 0.794	**29.4**	**2.66**	**1.24**	**10.5**	< 0.804	**17.5**
Beryllium	2.0	24.72	161.52	--	**0.587**	< 0.157	**1.02**	**0.602**	< 0.198	**0.569**	**0.514**	**0.298**	**0.317**	< 0.201	**0.562**
Cadmium	2.0	2.0	39	0.454	< 0.188	< 0.157	**18.2**	< 0.201	< 0.198	**61.4**	**1.56**	< 0.184	**3.24**	< 0.201	**12.2**
Chromium	100	100	1200	43.9	**14.5**	**4.56**	**76.7**	**20**	**5.75**	**203**	**32.7**	**9.35**	**72.6**	**9.06**	**176**
Selenium	2.0	2.0	36	0.957	< 0.751	< 0.627	**0.888**	< 0.804	< 0.794	**0.752**	< 0.674	< 0.735	< 0.865	< 0.804	< 0.897
Silver	2.0	2.0	10	--	< 0.188	< 0.157	**0.355**	< 0.201	< 0.198	**1.39**	< 0.168	< 0.184	< 0.216	< 0.201	**0.449**
Thallium	2.0	2.0	10	--	< 0.188	< 0.157	**0.282**	**0.253**	< 0.198	< 0.185	**0.194**	< 0.184	**0.237**	< 0.201	< 0.224
Polychlorinated Biphenyls - SW846 8082A, mg/kg															
PCB-1242	1.55	1.55	1.55	--	< 0.019	< 0.017	< 0.94	< 0.019	< 0.018	< 1.9	< 1.9	< 0.018	< 0.18	< 0.017	< 1.9
PCB-1248	1.55	1.55	1.55	--	< 0.019	< 0.017	< 0.94	< 0.019	< 0.018	**22**	< 1.9	< 0.018	**1.4**	< 0.017	**20**
PCB-1254	1.55	1.55	1.55	--	< 0.019	< 0.017	**3.6**	< 0.019	< 0.018	**20**	**15**	< 0.018	**1.3**	< 0.017	**5.5**
PCB-1260	1.55	1.55	1.55	--	< 0.019	< 0.017	**1.5**	< 0.019	< 0.018	< 1.9	< 1.9	< 0.018	**0.28**	< 0.017	< 1.9
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg															
2,4-Dimethylphenol	70	70	70	--	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037	< 0.036	< 0.18	< 0.034	< 0.19
2-Methylnaphthalene	1.0	1.0	2.11	--	< 0.019	< 0.017	**0.27**	< 0.019	< 0.018	< 0.96	**0.04**	< 0.018	**0.35**	< 0.017	**0.83**
3+4-Methylphenol (m,p-Cresol)	3.80	3.8	3.8	--	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037	< 0.036	< 0.18	< 0.034	< 0.19
4-Chloroaniline	10	10	10	--	< 0.075	< 0.068	< 0.37	< 0.076	< 0.069	< 3.8	< 0.074	< 0.071	< 0.36	< 0.068	**0.43**
Acenaphthene	300	300	300	--	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	< 0.019	< 0.018	< 0.092	< 0.017	**0.13**
Acenaphthylene	130	130	130	--	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	< 0.019	< 0.018	< 0.092	< 0.017	< 0.098
Acetophenone	400	400	400	--	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037	< 0.036	**0.57**	< 0.034	< 0.19
Anthracene	500	500	1000	--	< 0.019	< 0.017	**0.2**	< 0.019	< 0.018	< 0.96	**0.026**	< 0.018	**0.17**	< 0.017	**0.21**
Benzo(a)anthracene	5.0	5.0	5.0	--	< 0.019	< 0.017	**0.46**	< 0.019	< 0.018	**1.2**	**0.088**	< 0.018	**0.31**	< 0.017	**1.0**
Benzo(a)pyrene	1.64	1.64	1.64	--	< 0.019	< 0.017	**0.53**	< 0.019	< 0.018	**1.4**	**0.11**	< 0.018	**0.44**	< 0.017	**2.0**
Benzo(b)fluoranthene	5.0	5.0	5.0	--	< 0.019	< 0.017	**0.61**	< 0.019	< 0.018	**2.2**	**0.16**	< 0.018	< 0.092	< 0.017	**2.5**
Benzo(g,h,i)perylene	500	500	500	--	< 0.019	< 0.017	**0.4**	< 0.019	< 0.018	**1.6**	**0.12**	< 0.018	**0.52**	< 0.017	**2.6**
Benzo(k)fluoranthene	5.0	13.71	46.06	--	< 0.019	< 0.017	**0.32**	< 0.019	< 0.018	< 0.96	**0.065**	< 0.018	**0.81**	< 0.017	**1.1**
bis(2-Ethylhexyl)phthalate	50	50	50	--	< 0.19	< 0.17	**2.2**	< 0.19	< 0.18	< 9.6	**0.23**	< 0.18	**4.5**	< 0.17	**1.2**
Butyl benzyl phthalate	50	50	50	--	< 0.19	< 0.17	< 0.93	< 0.19	< 0.17	< 9.4	< 0.18	< 0.18	**2.6**	< 0.17	**7.9**
Chrysene	5.0	42	140	--	< 0.019	< 0.017	**0.59**	< 0.019	< 0.018	**1.3**	**0.098**	< 0.018	**0.4**	< 0.017	**1.4**
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	**0.031**	< 0.018	< 0.092	< 0.017	**0.58**
Diethyl phthalate	500	500	500	--	< 0.19	< 0.17	< 0.93	< 0.19	< 0.17	< 9.4	< 0.18	< 0.18	**1.1**	< 0.17	< 0.96
Dimethyl phthalate	40000	40000	40000	--	< 0.19	< 0.17	< 0.93	< 0.19	< 0.17	< 9.4	< 0.18	< 0.18	< 0.9	< 0.17	< 0.96
Fluoranthene	500	500	500	--	< 0.019	< 0.017	**0.82**	< 0.019	< 0.018	**2.2**	**0.15**	< 0.018	**0.55**	< 0.017	**1.3**
Fluorene	360	360	360	--	< 0.019	< 0.017	< 0.094	< 0.019	< 0.018	< 0.96	< 0.019	< 0.018	< 0.092	< 0.017	< 0.098
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	< 0.019	< 0.017	**0.3**	< 0.019	< 0.018	**1.8**	**0.097**	< 0.018	**0.38**	< 0.017	**2.1**
Naphthalene	100	100	100	--	< 0.019	< 0.017	**0.23**	< 0.019	< 0.018	< 0.96	**0.039**	< 0.018	**0.31**	< 0.017	**0.61**
Phenanthrene	110	110	110	--	< 0.019	< 0.017	**0.74**	< 0.019	< 0.018	**1.6**	**0.11**	< 0.018	**0.45**	< 0.017	**0.94**
Phenol	400	400	400	--	< 0.037	< 0.034	< 0.19	< 0.038	< 0.035	< 1.9	< 0.037	< 0.036	**0.92**	< 0.034	< 0.19
Pyrene	500	500	500	--	< 0.019	< 0.017	**0.97**	< 0.019	< 0.018	**2.4**	**0.13**	< 0.018	**0.68**	< 0.017	**1.6**
Volatile Organic Compounds - SW846 8260C, mg/kg															
1,1,1-Trichloroethane	20	20	20	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
1,1-Dichloroethane	400	400	400	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
2-Butanone (Methyl ethyl ketone)	200	200	200	--	< 0.011	< 0.01	< 0.012	< 0.01	< 0.011	**0.016**	< 0.5	< 0.011	**0.018**	< 0.011	< 0.8
Acetone	400	400	400	--	< 0.021	< 0.021	**0.062**	< 0.02	< 0.022	**0.14**	< 1.0	< 0.022	**0.15**	< 0.021	< 1.6
Benzene	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
Chloroethane	0.17	1.71	8.37	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	MW-01 6-8 MW-1-6-8-022516 2/25/2016 Sample	MW-01 12-14 MW-1-12-14-022516 2/25/2016 Sample	MW-02 2-4 MW-2-2-4-022516 2/25/2016 Sample	MW-02 6-8 MW-2-6-8-022516 2/25/2016 Sample	MW-02 12-14 MW-2-12-14-022516 2/25/2016 Sample	MW-03 2-4 MW-3-2-4-022416 2/24/2016 Sample	MW-03 6-8 MW-3-6-8-022416 2/24/2016 Sample	MW-03 12-14 MW-3-12-14-022416 2/24/2016 Sample	MW-04 2-4 MW-4-2-4-022316 2/23/2016 Sample	MW-04 12-14 MW-4-12-14-022316 2/23/2016 Sample	SBO-01 2-4 SBO-01-2-4-022616 2/26/2016 Sample
cis-1,2-Dichloroethene	7.0	7.0	7.0	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	**0.005**	< 0.005	< 0.4
Cyclohexane	20	20	20	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
Ethylbenzene	70	70	70	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
Styrene	14	14	14	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	**2.2**
Toluene	100	100	100	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	**3.3**
Trichloroethene (TCE)	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
Trichlorofluoromethane (Freon 11)	200	200	200	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	< 0.4
Xylenes, Total	1000	1000	1000	--	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.004	< 0.005	**3.0**

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 subsurface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
BOLD = DETECTED ABOVE THE LABORATORY REPORTING DETECTION LIMIT

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-01 6-8 SBO-01-6-8-022616 2/26/2016 Sample	SBO-01 12-14 SBO-01-12-14-022616 2/26/2016 Sample	SBO-01 12-14 SBO-DUP-6-022616FD 2/26/2016 Duplicate	SBO-02 2-4 SBO-02-2-4-022616 2/26/2016 Sample	SBO-02 6-8 SBO-02-6-8-022616 2/26/2016 Sample	SBO-02 12-14 SBO-02-12-14-022616 2/26/2016 Sample	SBO-03 2-4 SBO-03-2-4-022616 2/29/2016 Sample	SBO-03 6-8 SBO-03-6-8-022616 2/29/2016 Sample	SBO-03 6-8 SBO-DUP-7-022616FD 2/26/2016 Duplicate	SBO-03 12-14 SBO-03-12-14-022616 2/29/2016 Sample
Explosives - SW846 8330B, mg/kg														
4-Nitrotoluene	1.12	1.12	1.12	--	< 0.14	< 0.13	< 0.12	< 0.13	< 0.13	< 0.12	< 0.15	< 0.14	< 0.13	< 0.12
Mercury, Total - SW846 7471B, mg/kg														
Mercury	0.5	0.5	17	0.167	< 0.219	< 0.204	< 0.203	**0.631**	< 0.225	< 0.196	**3.69**	< 0.224	< 0.226	< 0.192
Metals, Total - SW846 6010C, mg/kg														
Barium	1000	1000	1000	--	**94.4**	**17.9**	**19**	**232**	**86.4**	**24.7**	**233**	**85.5**	**71.6**	**14.5**
Copper	100	100	1500	58.5	**10.1**	< 1.93	< 1.65	**387**	**31.1**	**9.36**	**1950**	**32.1**	**28.9**	**56.4 JL**
Lead	125	75	400	125	**9.06**	< 2.89	< 2.48	**609**	**8.15**	< 3.12	**909**	**8.8**	**7.7**	< 3.0
Nickel	50	50	420	16.3	**9.42**	< 1.93	< 1.65	**828**	**9.83**	**2.18**	**15100**	**11.7**	**8.91**	< 2.0
Zinc	126	291.9	2800	126	**44.3**	**7.94**	**7.48**	**1320**	**41.6**	**10.1**	**3070**	**45.2**	**39.6**	**8.2**
Metals, Total - SW846 6020A, mg/kg														
Antimony	4.0	4.0	10	3.96	< 0.368	< 0.385	< 0.331	**32.4**	< 0.447	< 0.416	**11.7**	< 0.454	< 0.46	< 0.401
Arsenic	20	20	41	9.41	**2.28**	< 0.77	< 0.661	**195**	**7.21**	< 0.831	**18.3**	**1.57**	**1.34**	< 0.801
Beryllium	2.0	24.72	161.52	--	**0.858**	< 0.193	**0.182**	**0.575**	**0.865**	**0.226**	**0.58**	**0.721**	**0.634**	< 0.2
Cadmium	2.0	2.0	39	0.454	< 0.184	< 0.193	< 0.165	**4.39**	< 0.223	< 0.208	**8.08**	< 0.227	< 0.2	< 0.2
Chromium	100	100	1200	43.9	**25.7**	**5.22**	**4.52**	**150**	**22.6**	**6.01**	**11100**	**23.3**	**22**	**5.29**
Selenium	2.0	2.0	36	0.957	< 0.735	< 0.77	< 0.661	< 0.885	< 0.893	< 0.831	< 0.964	< 0.907	< 0.92	< 0.801
Silver	2.0	2.0	10	--	< 0.184	< 0.193	< 0.165	**0.727**	< 0.223	< 0.208	**1.55**	< 0.227	< 0.23	< 0.2
Thallium	2.0	2.0	10	--	**0.31**	< 0.193	< 0.165	**0.657**	**0.283**	< 0.208	< 0.241	**0.325**	**0.248**	< 0.2
Polychlorinated Biphenyls - SW846 8082A, mg/kg														
PCB-1242	1.55	1.55	1.55	--	< 0.02	< 0.018	< 0.017	< 0.96	< 0.019	< 0.018	< 1.1	< 0.019	< 0.019	< 0.017
PCB-1248	1.55	1.55	1.55	--	**0.12**	< 0.018	< 0.017	**12**	< 0.019	< 0.018	**8.9**	< 0.019	< 0.019	**0.018**
PCB-1254	1.55	1.55	1.55	--	**0.024**	< 0.018	< 0.017	**9.6**	< 0.019	< 0.018	**3.8**	< 0.019	< 0.019	< 0.017
PCB-1260	1.55	1.55	1.55	--	< 0.02	< 0.018	< 0.017	< 0.96	< 0.019	< 0.018	< 1.1	< 0.019	< 0.019	< 0.017
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg														
2,4-Dimethylphenol	70	70	70	--	< 0.038	< 0.035	< 0.034	< 0.38	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034
2-Methylnaphthalene	1.0	1.0	2.11	--	< 0.02	< 0.018	< 0.018	**0.3**	< 0.019	< 0.018	**0.27**	< 0.019	< 0.019	< 0.017
3+4-Methylphenol (m,p-Cresol)	3.80	3.8	3.8	--	< 0.038	< 0.035	< 0.034	< 0.38	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034
4-Chloroaniline	10	10	10	--	< 0.077	< 0.07	< 0.069	< 0.75	< 0.075	< 0.069	< 0.83	< 0.076	< 0.076	< 0.067
Acenaphthene	300	300	300	--	< 0.02	< 0.018	< 0.018	< 0.19	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017
Acenaphthylene	130	130	130	--	< 0.02	< 0.018	< 0.018	< 0.19	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017
Acetophenone	400	400	400	--	< 0.038	< 0.035	< 0.034	< 0.38	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034
Anthracene	500	500	1000	--	< 0.02	< 0.018	< 0.018	**0.52**	< 0.019	< 0.018	**0.33**	< 0.019	< 0.019	< 0.017
Benzo(a)anthracene	5.0	5.0	5.0	--	< 0.02	< 0.018	< 0.018	**1.8**	< 0.019	< 0.018	**0.83**	< 0.019	< 0.019	< 0.017
Benzo(a)pyrene	1.64	1.64	1.64	--	< 0.02	< 0.018	< 0.018	**1.7**	< 0.019	< 0.018	**0.84**	< 0.019	< 0.019	< 0.017
Benzo(b)fluoranthene	5.0	5.0	5.0	--	< 0.02	< 0.018	< 0.018	**2.5**	< 0.019	< 0.018	**1.3**	< 0.019	< 0.019	< 0.017
Benzo(g,h,i)perylene	500	500	500	--	< 0.02	< 0.018	< 0.018	**1.3**	< 0.019	< 0.018	**0.7**	< 0.019	< 0.019	< 0.017
Benzo(k)fluoranthene	5.0	13.71	46.06	--	< 0.02	< 0.018	< 0.018	**1.1**	< 0.019	< 0.018	**0.54**	< 0.019	< 0.019	< 0.017
bis(2-Ethylhexyl)phthalate	50	50	50	--	< 0.2	< 0.18	< 0.18	**73**	< 0.19	< 0.18	< 2.1	< 0.19	< 0.19	< 0.17
Butyl benzyl phthalate	50	50	50	--	< 0.19	< 0.17	< 0.17	< 1.9	< 0.19	< 0.17	< 2.1	< 0.19	< 0.19	< 0.17
Chrysene	5.0	42	140	--	< 0.02	< 0.018	< 0.018	**2.0**	< 0.019	< 0.018	**0.84**	< 0.019	< 0.019	< 0.017
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	< 0.02	< 0.018	< 0.018	**0.36**	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017
Diethyl phthalate	500	500	500	--	< 0.19	< 0.17	< 0.17	< 1.9	< 0.19	< 0.17	< 2.1	< 0.19	< 0.19	< 0.17
Dimethyl phthalate	40000	40000	40000	--	< 0.19	< 0.17	< 0.17	< 1.9	< 0.19	< 0.17	< 2.1	< 0.19	< 0.19	< 0.17
Fluoranthene	500	500	500	--	< 0.02	< 0.018	< 0.018	**3.5**	< 0.019	< 0.018	**1.6**	< 0.019	< 0.019	< 0.017
Fluorene	360	360	360	--	< 0.02	< 0.018	< 0.018	< 0.19	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	< 0.02	< 0.018	< 0.018	**1.2**	< 0.019	< 0.018	**0.6**	< 0.019	< 0.019	< 0.017
Naphthalene	100	100	100	--	< 0.02	< 0.018	< 0.018	**0.22**	< 0.019	< 0.018	< 0.21	< 0.019	< 0.019	< 0.017
Phenanthrene	110	110	110	--	< 0.02	< 0.018	< 0.018	**1.7**	< 0.019	< 0.018	**0.81**	< 0.019	< 0.019	< 0.017
Phenol	400	400	400	--	< 0.038	< 0.035	< 0.034	**0.89**	< 0.038	< 0.035	< 0.42	< 0.038	< 0.038	< 0.034
Pyrene	500	500	500	--	< 0.02	< 0.018	< 0.018	**3.0**	< 0.019	< 0.018	**1.3**	< 0.019	< 0.019	< 0.017
Volatile Organic Compounds - SW846 8260C, mg/kg														
1,1,1-Trichloroethane	20	20	20	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
1,1-Dichloroethane	400	400	400	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
2-Butanone (Methyl ethyl ketone)	200	200	200	--	< 0.009	< 0.01	< 0.012	< 0.7	< 0.009	< 0.01	< 0.012	< 0.01	< 0.009	< 0.013
Acetone	400	400	400	--	< 0.018	< 0.02	< 0.024	< 1.4	< 0.017	< 0.02	**0.056**	**0.031**	**0.028**	< 0.027
Benzene	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Chloroethane	0.17	1.71	8.37	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-01 6-8 SBO-01-6-8-022616 2/26/2016 Sample	SBO-01 12-14 SBO-01-12-14-022616 2/26/2016 Sample	SBO-01 12-14 SBO-DUP-6-022616FD 2/26/2016 Duplicate	SBO-02 2-4 SBO-02-2-4-022616 2/26/2016 Sample	SBO-02 6-8 SBO-02-6-8-022616 2/26/2016 Sample	SBO-02 12-14 SBO-02-12-14-022616 2/26/2016 Sample	SBO-03 2-4 SBO-03-2-4-022616 2/29/2016 Sample	SBO-03 6-8 SBO-03-6-8-022616 2/29/2016 Sample	SBO-03 6-8 SBO-DUP-7-022616FD 2/26/2016 Duplicate	SBO-03 12-14 SBO-03-12-14-022616 2/29/2016 Sample
cis-1,2-Dichloroethene	7.0	7.0	7.0	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Cyclohexane	20	20	20	--	< 0.005	< 0.005	< 0.006	**0.37**	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Ethylbenzene	70	70	70	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Styrene	14	14	14	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Toluene	100	100	100	--	< 0.005	< 0.005	< 0.006	**0.97**	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Trichloroethene (TCE)	0.5	0.5	0.5	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Trichlorofluoromethane (Freon 11)	200	200	200	--	< 0.005	< 0.005	< 0.006	< 0.35	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007
Xylenes, Total	1000	1000	1000	--	< 0.005	< 0.005	< 0.006	**1.1**	< 0.004	< 0.005	< 0.006	< 0.005	< 0.005	< 0.007

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 subsurface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
BOLD = DETECTED ABOVE THE LABORATORY REPORTING DETECTION LIMIT

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-04 6-8 SBO-04-6-8-022516 2/25/2016 Sample	SBO-04 12-14 SBO-04-12-14-022516 2/25/2016 Sample	SBO-05 6-8 SBO-05-6-8-022616 2/29/2016 Sample	SBO-05 12-14 SBO-05-12-14-022616 2/29/2016 Sample	SBO-06 2-4 SBO-06-2-4-022616 2/29/2016 Sample	SBO-06 6-8 SBO-06-6-8-022616 2/29/2016 Sample	SBO-06 12-14 SBO-06-12-14-022616 2/29/2016 Sample	SBO-07 6-8 SBO-07-6-8-022316 2/24/2016 Sample	SBO-07 12-14 SBO-07-12-14-022316 2/24/2016 Sample	SBO-08 6-8 SBO-08-6-8-022316 2/24/2016 Sample
Explosives - SW846 8330B, mg/kg														
4-Nitrotoluene	1.12	1.12	1.12	--	< 0.13	< 0.12	< 0.13	< 0.12	< 0.14	< 0.12	< 0.12	< 0.15	< 0.13	< 0.14
Mercury, Total - SW846 7471B, mg/kg														
Mercury	0.5	0.5	17	0.167	< 0.225	< 0.202	< 0.203	< 0.208	**1.78**	< 0.203	< 0.195	< 0.239	< 0.209	< 0.231
Metals, Total - SW846 6010C, mg/kg														
Barium	1000	1000	1000	--	**33.3**	**15.7**	**52.7**	**29.1**	**293**	**45**	**18.9 J**	**147**	**27.6**	**128**
Copper	100	100	1500	58.5	**13.8**	**5.07**	**3.18**	**9.46**	**786**	**3.64**	**3.53**	**60.3**	**12.4**	**49.2**
Lead	125	75	400	125	**4.27**	< 3.16	**4.2**	**19.1**	**926**	**4.58**	< 2.51	**18.6**	< 3.11	**14.3**
Nickel	50	50	420	16.3	**4.09**	< 2.11	**4.62**	**3.86**	**163**	**4.7**	**1.84**	**18.1**	**3.22**	**15.1**
Zinc	126	291.9	2800	126	**17.4**	**6.49**	**21**	**85.9**	**2450**	**22**	**10.9**	**82.7**	**13.3**	**64.8**
Metals, Total - SW846 6020A, mg/kg														
Antimony	4.0	4.0	10	3.96	< 0.45	< 0.422	< 0.368	**0.308**	**11.6**	< 0.342	< 0.335 UJ	< 0.478	< 0.414	< 0.479
Arsenic	20	20	41	9.41	< 0.899	< 0.844	**1.44**	**1.22**	**18.4**	**1.3**	**0.677 J**	**4.15**	**1.3**	**3.89**
Beryllium	2.0	24.72	161.52	--	**0.402**	< 0.211	**0.486**	**0.171**	**0.37**	**0.48**	**0.176**	**1.3**	**0.309**	**1.24**
Cadmium	2.0	2.0	39	0.454	< 0.225	< 0.211	< 0.184	**0.252**	**7.06**	< 0.171	< 0.167	< 0.239	< 0.207	< 0.239
Chromium	100	100	1200	43.9	**10.1**	**4.79**	**10.6**	**10.5**	**284**	**11.8**	**5.76 J**	**34.7**	**8.48**	**34.4**
Selenium	2.0	2.0	36	0.957	< 0.899	< 0.844	< 0.737	< 0.567	**1.64**	< 0.685	< 0.67	< 0.956	< 0.829	< 0.958
Silver	2.0	2.0	10	--	< 0.225	< 0.211	< 0.184	< 0.142	**0.941**	< 0.171	< 0.167	< 0.239	< 0.207	< 0.239
Thallium	2.0	2.0	10	--	< 0.225	< 0.211	< 0.184	< 0.142	< 0.197	< 0.171	< 0.167	**0.545**	< 0.207	**0.505**
Polychlorinated Biphenyls - SW846 8082A, mg/kg														
PCB-1242	1.55	1.55	1.55	--	< 0.019	< 0.018	< 0.018	< 0.018	< 0.99	< 0.018	< 0.017	< 0.021	< 0.018	< 0.021
PCB-1248	1.55	1.55	1.55	--	< 0.019	< 0.018	< 0.018	**0.027**	**23**	< 0.018	< 0.017	**0.049**	< 0.018	< 0.021
PCB-1254	1.55	1.55	1.55	--	< 0.019	< 0.018	< 0.018	**0.022**	**11**	< 0.018	< 0.017	**0.022**	< 0.018	**0.063**
PCB-1260	1.55	1.55	1.55	--	< 0.019	< 0.018	< 0.018	< 0.018	< 0.99	< 0.018	< 0.017	< 0.021	< 0.018	< 0.021
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg														
2,4-Dimethylphenol	70	70	70	--	< 0.037	< 0.035	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	< 0.04	< 0.036	< 0.04
2-Methylnaphthalene	1.0	1.0	2.11	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.7**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
3+4-Methylphenol (m,p-Cresol)	3.80	3.8	3.8	--	< 0.037	< 0.035	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	< 0.04	< 0.036	< 0.04
4-Chloroaniline	10	10	10	--	< 0.075	< 0.071	< 0.071	< 0.07	< 1.9	< 0.07	< 0.067 UJ	< 0.081	< 0.071	< 0.08
Acenaphthene	300	300	300	--	< 0.019	< 0.018	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Acenaphthylene	130	130	130	--	< 0.019	< 0.018	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Acetophenone	400	400	400	--	< 0.037	< 0.035	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	< 0.04	< 0.036	< 0.04
Anthracene	500	500	1000	--	< 0.019	< 0.018	< 0.018	< 0.018	**0.55**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Benzo(a)anthracene	5.0	5.0	5.0	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.0**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Benzo(a)pyrene	1.64	1.64	1.64	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.5**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Benzo(b)fluoranthene	5.0	5.0	5.0	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.8**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Benzo(g,h,i)perylene	500	500	500	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.5**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Benzo(k)fluoranthene	5.0	13.71	46.06	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.1**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
bis(2-Ethylhexyl)phthalate	50	50	50	--	< 0.19	< 0.18	< 0.18	< 0.18	**27**	< 0.18	< 0.17	< 0.21	< 0.18	< 0.2
Butyl benzyl phthalate	50	50	50	--	< 0.19	< 0.18	< 0.18	< 0.17	< 4.9	< 0.18	< 0.17	< 0.2	< 0.18	< 0.2
Chrysene	5.0	42	140	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.6**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	< 0.019	< 0.018	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Diethyl phthalate	500	500	500	--	< 0.19	< 0.18	< 0.18	< 0.17	< 4.9	< 0.18	< 0.17	< 0.2	< 0.18	< 0.2
Dimethyl phthalate	40000	40000	40000	--	< 0.19	< 0.18	< 0.18	< 0.17	< 4.9	< 0.18	< 0.17	< 0.2	< 0.18	< 0.2
Fluoranthene	500	500	500	--	< 0.019	< 0.018	< 0.018	< 0.018	**2.3**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Fluorene	360	360	360	--	< 0.019	< 0.018	< 0.018	< 0.018	< 0.5	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.4**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Naphthalene	100	100	100	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.3**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Phenanthrene	110	110	110	--	< 0.019	< 0.018	< 0.018	< 0.018	**1.5**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Phenol	400	400	400	--	< 0.037	< 0.035	< 0.036	< 0.035	< 0.97	< 0.035	< 0.034	**0.7**	< 0.036	< 0.04
Pyrene	500	500	500	--	< 0.019	< 0.018	< 0.018	< 0.018	**2.5**	< 0.018	< 0.017	< 0.021	< 0.018	< 0.02
Volatile Organic Compounds - SW846 8260C, mg/kg														
1,1,1-Trichloroethane	20	20	20	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	400	400	400	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2-Butanone (Methyl ethyl ketone)	200	200	200	--	< 0.01	< 0.012	< 0.01	< 0.011	< 0.74	< 0.01	< 0.011	< 0.01	< 0.011	< 0.009
Acetone	400	400	400	--	**0.02**	< 0.024	**0.021 JH**	< 0.023	< 1.5	**0.025**	< 0.021	**0.037**	< 0.022	< 0.018
Benzene	0.5	0.5	0.5	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	0.17	1.71	8.37	--	< 0.005	< 0.006	< 0.005	< 0.006	**0.64**	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-04 6-8 SBO-04-6-8-022516 2/25/2016 Sample	SBO-04 12-14 SBO-04-12-14-022516 2/25/2016 Sample	SBO-05 6-8 SBO-05-6-8-022616 2/29/2016 Sample	SBO-05 12-14 SBO-05-12-14-022616 2/29/2016 Sample	SBO-06 2-4 SBO-06-2-4-022616 2/29/2016 Sample	SBO-06 6-8 SBO-06-6-8-022616 2/29/2016 Sample	SBO-06 12-14 SBO-06-12-14-022616 2/29/2016 Sample	SBO-07 6-8 SBO-07-6-8-022316 2/24/2016 Sample	SBO-07 12-14 SBO-07-12-14-022316 2/24/2016 Sample	SBO-08 6-8 SBO-08-6-8-022316 2/24/2016 Sample
cis-1,2-Dichloroethene	7.0	7.0	7.0	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cyclohexane	20	20	20	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	70	70	70	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Styrene	14	14	14	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	100	100	100	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethene (TCE)	0.5	0.5	0.5	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichlorofluoromethane (Freon 11)	200	200	200	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes, Total	1000	1000	1000	--	< 0.005	< 0.006	< 0.005	< 0.006	< 0.37	< 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] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 subsurface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
BOLD = DETECTED ABOVE THE LABORATORY REPORTING DETECTION LIMIT

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: / Sample Depth (ft.): / Sample ID: / Sample Date: / Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-08 12-14 SBO-08-12-14-022316 2/24/2016 Sample	SBO-09 2-4 SBO-09-2-4-022616 2/26/2016 Sample	SBO-09 2-4 SBO-DUP-5-022616FD 2/26/2016 Duplicate	SBO-09 6-8 SBO-09-6-8-022616 2/26/2016 Sample	SBO-09 12-14 SBO-09-12-14-022616 2/26/2016 Sample	SBO-10 6-8 SBO-10-6-8-022316 2/23/2016 Sample	SBO-10 12-14 SBO-10-12-14-022316 2/23/2016 Sample	SBO-11 2-4 SBO-11-2-4-101816 10/18/2016 Sample	SBO-11 2-4 DUP-01-101816FD 10/18/2016 Duplicate	SBO-11 6-8 SBO-11-6-8-101916 10/19/2016 Sample
Explosives - SW846 8330B, mg/kg														
4-Nitrotoluene	1.12	1.12	1.12	--	< 0.12	< 0.13	< 0.13	< 0.13	< 0.12	< 0.14	< 0.12	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg														
Mercury	0.5	0.5	17	0.167	< 0.205	**0.473**	**0.498**	< 0.219	< 0.193	< 0.228	< 0.201	**0.388**	**0.746**	NA
Metals, Total - SW846 6010C, mg/kg														
Barium	1000	1000	1000	--	**19.8**	**285**	**244**	**70.8**	**21.2**	**138**	**19.4**	NA	NA	NA
Copper	100	100	1500	58.5	**7.95**	**480 J**	**1630 J**	**28.5**	**7.1**	**45.1**	**7.7**	**820 J**	**474 J**	**35.5**
Lead	125	75	400	125	< 3.04	**627**	**662**	**7.08**	< 2.94	**16.4**	< 3.01	**2330**	**1870**	**58.4**
Nickel	50	50	420	16.3	**2.04**	**137**	**93.5**	**8.37**	**2.15**	**15**	**2.08**	**126**	**167**	NA
Zinc	126	291.9	2800	126	**7.98**	**2510**	**2930**	**36.9**	**10.5**	**67.3**	**28.9**	**4680**	**4400**	**479**
Metals, Total - SW846 6020A, mg/kg														
Antimony	4.0	4.0	10	3.96	< 0.405	**10**	**7.54**	< 0.443	< 0.392	< 0.459	< 0.401	**18.1**	**15.1**	NA
Arsenic	20	20	41	9.41	**1.01**	**26.1**	**19.5**	**1.09**	< 0.785	**3.09**	< 0.803	**31.9**	**29.1**	NA
Beryllium	2.0	24.72	161.52	--	**0.218**	**1.25**	**0.375**	**0.582**	< 0.196	**1.09**	< 0.201	NA	NA	NA
Cadmium	2.0	2.0	39	0.454	< 0.203	**6.22**	**5.34**	< 0.221	< 0.196	< 0.229	< 0.201	**95.4**	**139**	NA
Chromium	100	100	1200	43.9	**6.27**	**113**	**187**	**20.9**	**5.49**	**37.5**	**6.21**	**179**	**260**	NA
Selenium	2.0	2.0	36	0.957	< 0.811	< 0.894	< 0.717	< 0.886	< 0.785	< 0.917	< 0.803	NA	NA	NA
Silver	2.0	2.0	10	--	< 0.203	**0.356**	**0.332**	< 0.221	< 0.196	< 0.229	< 0.201	NA	NA	NA
Thallium	2.0	2.0	10	--	< 0.203	< 0.223	**0.202**	**0.264**	< 0.196	**0.432**	< 0.201	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg														
PCB-1242	1.55	1.55	1.55	--	< 0.018	< 0.38	< 1.9	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
PCB-1248	1.55	1.55	1.55	--	< 0.018	**4.4 J**	**8.0 J**	< 0.019	< 0.017	**0.032**	< 0.017	< 0.93	< 0.93	< 0.092
PCB-1254	1.55	1.55	1.55	--	< 0.018	**3.9 J**	**7.0 J**	< 0.019	< 0.017	< 0.02	< 0.017	**7.5**	**7.8**	**0.94**
PCB-1260	1.55	1.55	1.55	--	< 0.018	< 0.38	< 1.9	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg														
2,4-Dimethylphenol	70	70	70	--	< 0.034	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	< 0.018	**0.17**	**0.13**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.80	3.8	3.8	--	< 0.034	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034	NA	NA	NA
4-Chloroaniline	10	10	10	--	< 0.069	< 0.37	< 0.37	< 0.074	< 0.068	< 0.077	< 0.068	NA	NA	NA
Acenaphthene	300	300	300	--	< 0.018	**0.43**	**0.25**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Acenaphthylene	130	130	130	--	< 0.018	< 0.095	< 0.094	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Acetophenone	400	400	400	--	< 0.034	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034	NA	NA	NA
Anthracene	500	500	1000	--	< 0.018	**0.61**	**0.42**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	< 0.018	**1.1**	**0.7**	< 0.019	< 0.017	**0.02**	< 0.017	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	1.64	--	< 0.018	**1.2**	**0.84**	< 0.019	< 0.017	**0.027**	< 0.017	NA	NA	NA
Benzo(b)fluoranthene	5.0	5.0	5.0	--	< 0.018	**1.8**	**1.1**	< 0.019	< 0.017	**0.035**	< 0.017	NA	NA	NA
Benzo(g,h,i)perylene	500	500	500	--	< 0.018	**1.1**	**0.96**	< 0.019	< 0.017	**0.036**	< 0.017	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46.06	--	< 0.018	**0.75**	**0.6**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	< 0.18	**1.1**	**2.6**	< 0.19	< 0.17	< 0.2	< 0.17	NA	NA	NA
Butyl benzyl phthalate	50	50	50	--	< 0.17	**1.5**	**3.3**	< 0.18	< 0.17	< 0.19	< 0.17	NA	NA	NA
Chrysene	5.0	42	140	--	< 0.018	**1.3**	**0.96**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	< 0.018	**0.29**	**0.25**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Diethyl phthalate	500	500	500	--	< 0.17	< 0.93	< 0.92	< 0.18	< 0.17	< 0.19	< 0.17	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	< 0.17	< 0.93	< 0.92	< 0.18	< 0.17	< 0.19	< 0.17	NA	NA	NA
Fluoranthene	500	500	500	--	< 0.018	**1.9**	**1.3**	< 0.019	< 0.017	**0.029**	< 0.017	NA	NA	NA
Fluorene	360	360	360	--	< 0.018	**0.36**	**0.22**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	< 0.018	**0.96**	**0.88**	< 0.019	< 0.017	**0.028**	< 0.017	NA	NA	NA
Naphthalene	100	100	100	--	< 0.018	**0.36**	**0.22**	< 0.019	< 0.017	< 0.02	< 0.017	NA	NA	NA
Phenanthrene	110	110	110	--	< 0.018	**2.2 J**	**1.3 J**	< 0.019	< 0.017	**0.027**	< 0.017	NA	NA	NA
Phenol	400	400	400	--	< 0.034	< 0.19	< 0.18	< 0.037	< 0.034	< 0.039	< 0.034	NA	NA	NA
Pyrene	500	500	500	--	< 0.018	**2.2**	**1.6**	< 0.019	< 0.017	**0.03**	< 0.017	NA	NA	NA
Volatile Organic Compounds - SW846 8260C, mg/kg														
1,1,1-Trichloroethane	20	20	20	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	< 0.01	**0.021**	**0.014**	< 0.012	< 0.011	< 0.008	< 0.011	NA	NA	NA
Acetone	400	400	400	--	**0.022**	**0.11**	**0.071**	< 0.024	< 0.023	< 0.016	< 0.022	NA	NA	NA
Benzene	0.5	0.5	0.5	--	< 0.005	**0.005**	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Chloroethane	0.17	1.71	8.37	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-08 12-14 SBO-08-12-14-022316 2/24/2016 Sample	SBO-09 2-4 SBO-09-2-4-022616 2/26/2016 Sample	SBO-09 2-4 SBO-DUP-5-022616FD 2/26/2016 Duplicate	SBO-09 6-8 SBO-09-6-8-022616 2/26/2016 Sample	SBO-09 12-14 SBO-09-12-14-022616 2/26/2016 Sample	SBO-10 6-8 SBO-10-6-8-022316 2/23/2016 Sample	SBO-10 12-14 SBO-10-12-14-022316 2/23/2016 Sample	SBO-11 2-4 SBO-11-2-4-101816 10/18/2016 Sample	SBO-11 2-4 DUP-01-101816FD 10/18/2016 Duplicate	SBO-11 6-8 SBO-11-6-8-101916 10/19/2016 Sample
cis-1,2-Dichloroethene	7.0	7.0	7.0	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Cyclohexane	20	20	20	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Ethylbenzene	70	70	70	--	< 0.005	**0.021**	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	< 0.005	< 0.004	< 0.004	< 0.006	**0.008**	< 0.004	< 0.005	NA	NA	NA
Styrene	14	14	14	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Toluene	100	100	100	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	< 0.005	< 0.004	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA
Xylenes, Total	1000	1000	1000	--	< 0.005	**0.009**	< 0.004	< 0.006	< 0.006	< 0.004	< 0.005	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
DAF = Dilution Attenuation Factor
-- = No regulatory standard applicable
RRS = Risk Reduction Standard
[a] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 subsurface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
BOLD = DETECTED ABOVE THE LABORATORY REPORTING DETECTION LIMIT

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-12 2-4 SBO-12-2-4-101916 10/19/2016 Sample	SBO-13 2-4 SBO-13-2-4-101916 10/19/2016 Sample	SBO-14 2-4 SBO-14-2-4-102016 10/20/2016 Sample	SBO-15 2-4 SBO-15-2-4-101916 10/19/2016 Sample	SBO-16/21 2-4 SBO-16/21-2-4-102016 10/20/2016 Sample	SBO-17 2-4 SBO-17-2-4-102016 10/20/2016 Sample	SBO-18 2-4 SBO-18-2-4-102016 10/20/2016 Sample	SBO-23 2-4 SBO-23-2-4-101916 10/19/2016 Sample
Explosives - SW846 8330B, mg/kg												
4-Nitrotoluene	1.12	1.12	1.12	--	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total - SW846 7471B, mg/kg												
Mercury	0.5	0.5	17	0.167	NA	NA	< 0.0997	< 0.118	NA	NA	NA	NA
Metals, Total - SW846 6010C, mg/kg												
Barium	1000	1000	1000	--	NA	NA	NA	NA	NA	NA	NA	NA
Copper	100	100	1500	58.5	**16.6**	**13**	NA	NA	NA	**11.7**	**28.6**	NA
Lead	125	75	400	125	**130**	< 2.95	**18.8**	**23.5**	NA	NA	NA	**166**
Nickel	50	50	420	16.3	**13.4**	**12**	NA	NA	NA	NA	NA	**27.8**
Zinc	126	291.9	2800	126	**60**	**52.6**	NA	NA	NA	NA	NA	**292**
Metals, Total - SW846 6020A, mg/kg												
Antimony	4.0	4.0	10	3.96	< 0.402	< 0.393	NA	NA	**0.657**	< 0.345	NA	**3.4**
Arsenic	20	20	41	9.41	**3.48**	NA	NA	NA	NA	NA	NA	NA
Beryllium	2.0	24.72	161.52	--	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.0	2.0	39	0.454	< 0.201	< 0.196	NA	NA	NA	NA	NA	**2.02**
Chromium	100	100	1200	43.9	**39.7**	**34.3**	NA	NA	NA	NA	NA	NA
Selenium	2.0	2.0	36	0.957	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2.0	2.0	10	--	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyls - SW846 8082A, mg/kg												
PCB-1242	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248	1.55	1.55	1.55	--	< 0.019	< 0.39	NA	NA	NA	NA	NA	NA
PCB-1254	1.55	1.55	1.55	--	< 0.019	< 0.39	NA	NA	NA	NA	NA	NA
PCB-1260	1.55	1.55	1.55	--	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds - SW846 8270D, mg/kg												
2,4-Dimethylphenol	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	1.0	1.0	2.11	--	NA	NA	NA	NA	NA	NA	NA	NA
3+4-Methylphenol (m,p-Cresol)	3.80	3.8	3.8	--	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	10	10	10	--	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	300	300	300	--	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	130	130	130	--	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	500	500	1000	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	1.64	1.64	1.64	--	NA	< 0.019	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5.0	5.0	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	5.0	13.71	46.06	--	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	50	50	--	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	5.0	42	140	--	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	2.05	2.05	5.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	40000	40000	40000	--	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	360	360	360	--	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.0	5.0	15.68	--	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	110	110	110	--	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	500	500	500	--	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds - SW846 8260C, mg/kg												
1,1,1-Trichloroethane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	400	400	400	--	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	0.17	1.71	8.37	--	NA	NA	NA	NA	NA	NA	NA	NA

Table 2: Summary of Subsurface Soil Analytical Results

Location ID: Sample Depth (ft.): Sample ID: Sample Date: Sample Type:	Delineation Value[a]	Selected Residential RRS[b]	Selected Non-Residential RRS[c]	Background Threshold Value[d]	SBO-12 2-4 SBO-12-2-4-101916 10/19/2016 Sample	SBO-13 2-4 SBO-13-2-4-101916 10/19/2016 Sample	SBO-14 2-4 SBO-14-2-4-102016 10/20/2016 Sample	SBO-15 2-4 SBO-15-2-4-101916 10/19/2016 Sample	SBO-16/21 2-4 SBO-16/21-2-4-102016 10/20/2016 Sample	SBO-17 2-4 SBO-17-2-4-102016 10/20/2016 Sample	SBO-18 2-4 SBO-18-2-4-102016 10/20/2016 Sample	SBO-23 2-4 SBO-23-2-4-101916 10/19/2016 Sample
cis-1,2-Dichloroethene	7.0	7.0	7.0	--	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	20	20	20	--	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	70	70	70	--	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	14	14	14	--	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene (PCE)	0.5	0.5	0.5	--	NA	< 0.004	NA	NA	NA	NA	NA	NA
Toluene	100	100	100	--	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	0.5	0.5	0.5	--	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (Freon 11)	200	200	200	--	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	1000	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] = Type 1 residential risk reduction standards, background threshold values (BTVs), or HSRA Notification Concentrations were used as the Delineation Value
[b] = Higher of Type 1 and Type 2 Residential Risk Reduction Standards for Soil DAF = 1
[c] = Higher of Type 3 and Type 4 subsurface soil Non-Residential Risk Reduction Standards for Soil DAF = 1
[d] = 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
BOLD = DETECTED ABOVE THE LABORATORY REPORTING DETECTION LIMIT

EXCEEDS DELINEATION VALUE[a]

EXCEEDS SELECTED RESIDENTIAL RRS[b]
EXCEEDS SELECTED NON-RESIDENTIAL RRS[c]

FIGURES

Legend

- Sample Location
- Test Pit Observation Location
- Site Boundary
- Tax Parcels

N

SBO-17
DT-02-120
SBO-15
SBO-20
DT-01B
DT-03-40
SBO-14
SS-01
SS-02
SS-03
SBO-28
DT-05-50
MW-01
SBO-24
DT-04-50
DT-04-100
SS-06
SS-07
SS-04
SS-05
SS-08
SBO-18
DT-06-35
DT-07-40
SBO-27
SS-09
SS-10
SS-11
SS-12
SS-13
SBO-16/21
SBO-01
D
SS-14
SBO-13
A
SBO-02
SBO-03
SBO-04
DT-08-Offset
B
C
SBO-05
SBO-06
SBO-07
SBO-08
SBO-12
MW-02
F
E
G
SBO-09
I
H
SS-15
DT-09-105
J
SBO-22
SBO-11
MW-03
SBO-10
K
MW-04
SBO-23
DT-10B
SS-16
DT-11B
SS-18
SS-19
SS-20
SBO-19
SS-17
SBO-26
SBO-29
DT-12B
SBO-25

0 100 200 Feet

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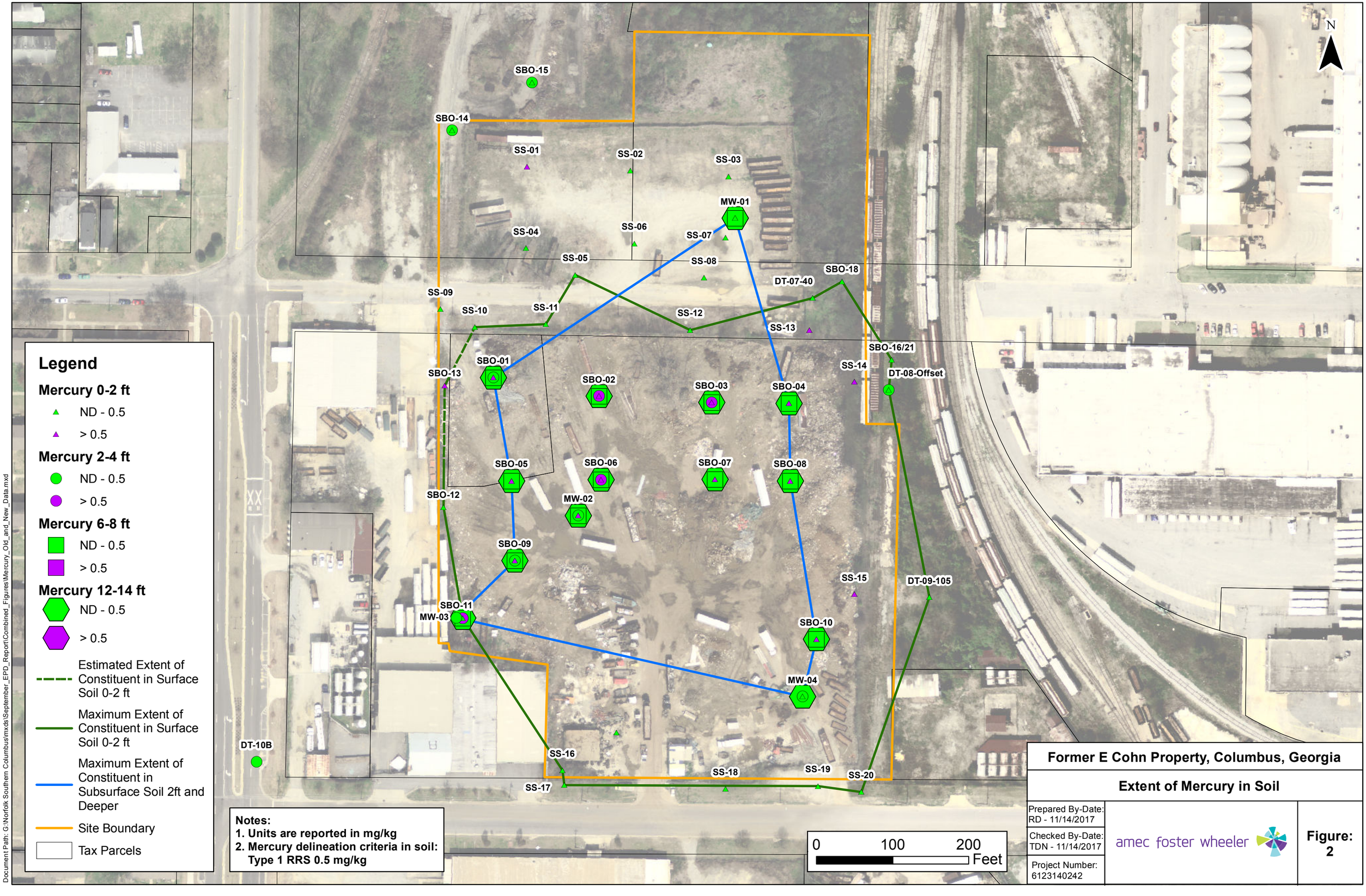
Former E Cohn Property, Columbus, Georgia	
Site Map of Site Area	
Prepared By-Date: RD - 11/29/2017	amec foster wheeler
Checked By-Date: TDN - 11/29/2017	**Figure: 1**
Project Number: 6123140242	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SBO-15
SBO-14
SS-01
SS-02
SS-03
MW-01
SS-04
SS-06
SS-07
SS-05
SS-08
SBO-18
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SBO-16/21
SBO-13
SBO-01
SBO-02
SBO-03
SBO-04
SS-14
DT-08-Offset
SBO-05
SBO-06
SBO-07
SBO-08
SBO-12
MW-02
SBO-09
SS-15
DT-09-105
SBO-11
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
SS-18
SS-19
SS-20
Legend
Mercury 0-2 ft
ND - 0.5
> 0.5
Mercury 2-4 ft
ND - 0.5
> 0.5
Mercury 6-8 ft
ND - 0.5
> 0.5
Mercury 12-14 ft
ND - 0.5
> 0.5
Estimated Extent of Constituent in Surface Soil 0-2 ft
Maximum Extent of Constituent in Surface Soil 0-2 ft
Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
Site Boundary
Tax Parcels
Notes:
1. Units are reported in mg/kg
2. Mercury delineation criteria in soil: Type 1 RRS 0.5 mg/kg
0
100
200
Feet
Former E Cohn Property, Columbus, Georgia
Extent of Mercury in Soil
Prepared By-Date: RD - 11/14/2017
Checked By-Date: TDN - 11/14/2017
Project Number: 6123140242
amec foster wheeler
Figure: 2
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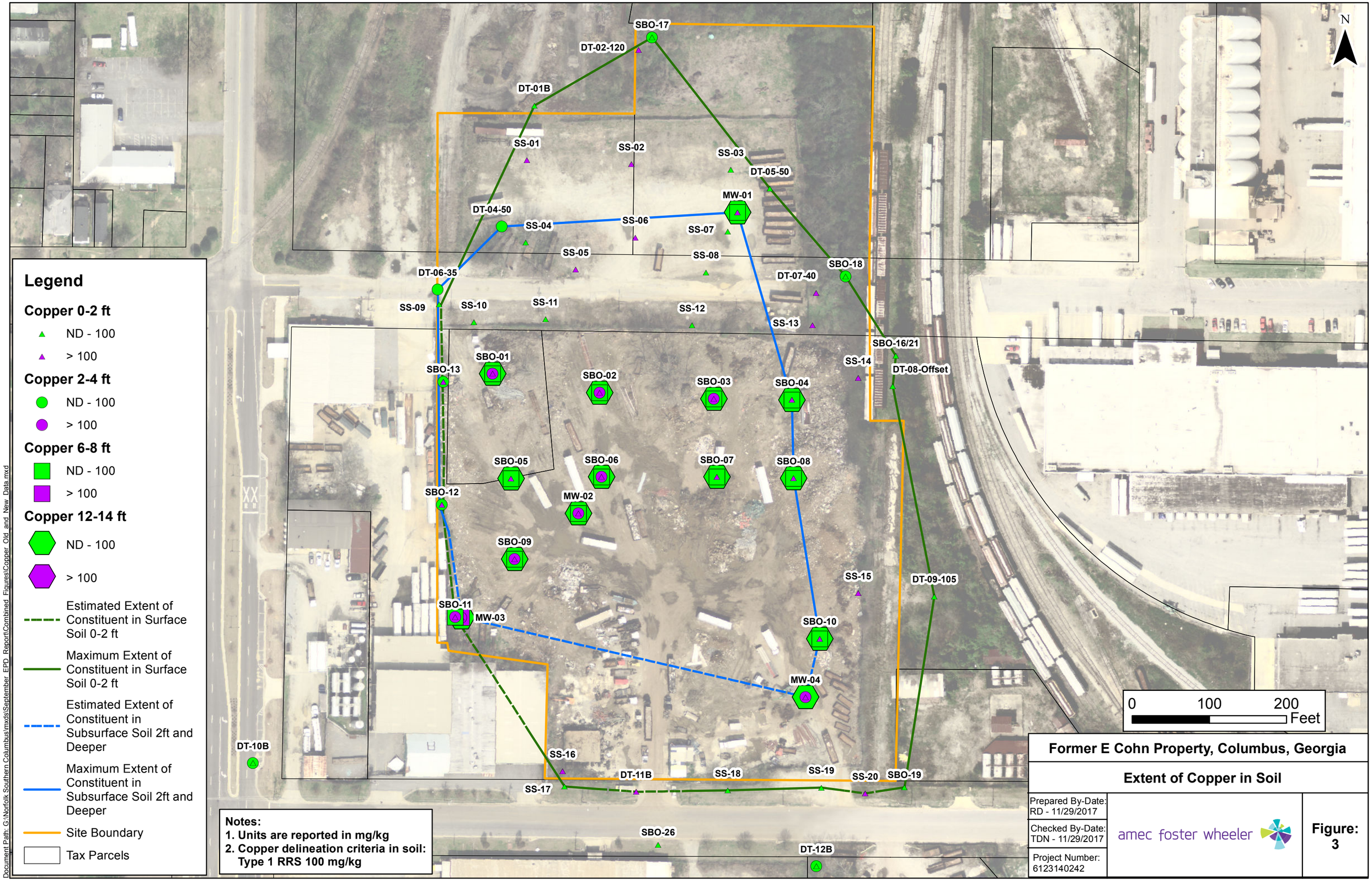
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SBO-17
DT-02-120
DT-01B
SS-01
SS-02
SS-03
DT-05-50
MW-01
DT-04-50
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SS-06
SS-07
SS-05
SS-08
SBO-18
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SBO-16/21
SS-14
DT-08-Offset
SBO-13
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
SBO-12
MW-02
SBO-09
SS-15
DT-09-105
SBO-11
MW-03
SBO-10
MW-04
DT-10B
SS-16
DT-11B
SS-18
SS-19
SS-20
SBO-19
SS-17
SBO-26
DT-12B
0
100
200
Feet
Legend
Copper 0-2 ft
ND - 100
> 100
Copper 2-4 ft
ND - 100
> 100
Copper 6-8 ft
ND - 100
> 100
Copper 12-14 ft
ND - 100
> 100
Estimated Extent of Constituent in Surface Soil 0-2 ft
Maximum Extent of Constituent in Surface Soil 0-2 ft
Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
Site Boundary
Tax Parcels
Notes:
1. Units are reported in mg/kg
2. Copper delineation criteria in soil: Type 1 RRS 100 mg/kg
Former E Cohn Property, Columbus, Georgia
Extent of Copper in Soil
Prepared By-Date: RD - 11/29/2017
Checked By-Date: TDN - 11/29/2017
Project Number: 6123140242
amec foster wheeler
Figure: 3
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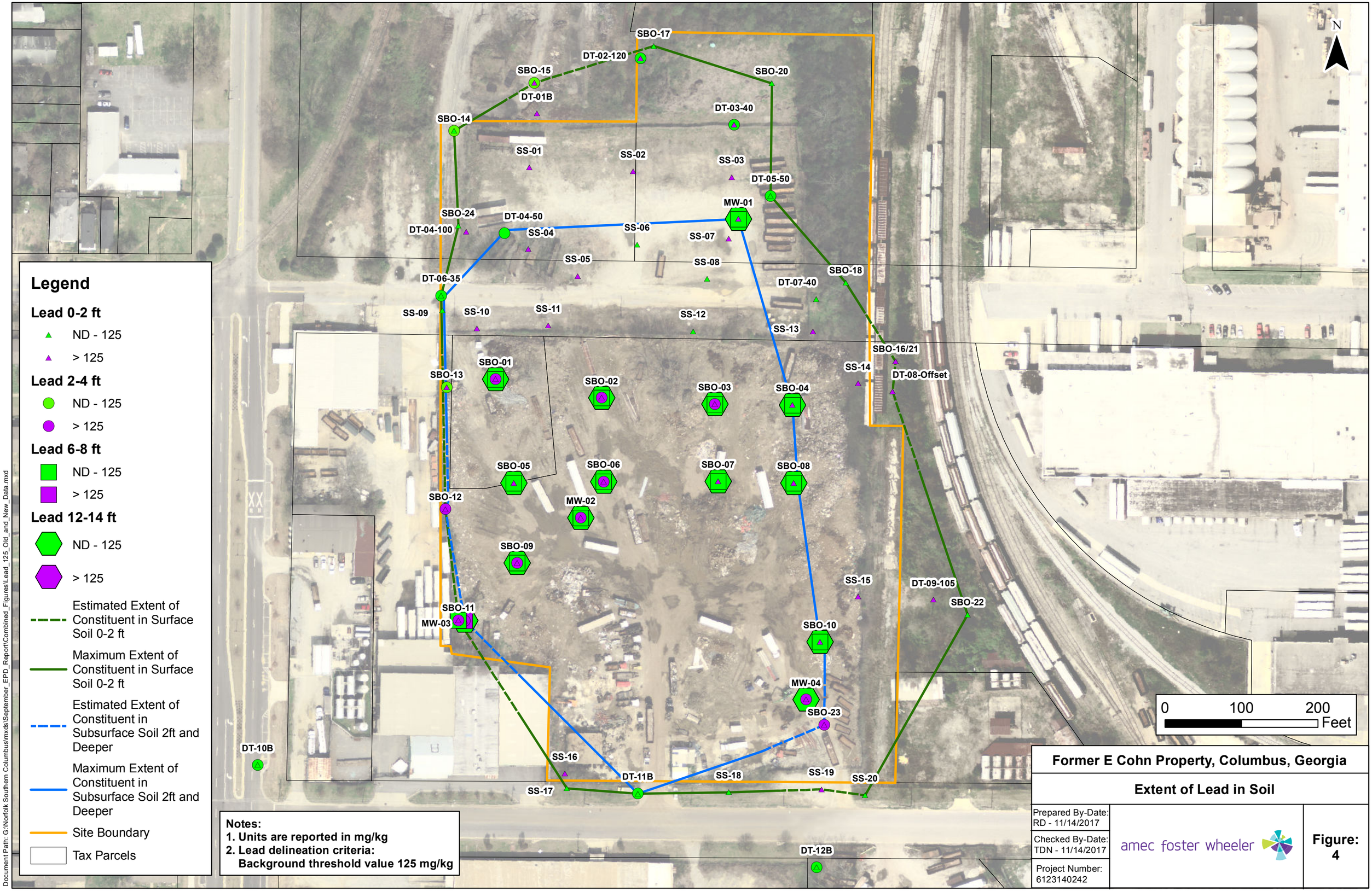
N
SBO-17
DT-02-120
SBO-15
SBO-20
DT-01B
DT-03-40
SBO-14
SS-01
SS-02
SS-03
DT-05-50
MW-01
SBO-24
DT-04-50
DT-04-100
SS-04
SS-06
SS-07
SS-05
SS-08
SBO-18
DT-06-35
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SBO-16/21
SBO-01
SS-14
DT-08-Offset
SBO-13
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
SBO-12
MW-02
SBO-09
SS-15
DT-09-105
SBO-22
SBO-11
MW-03
SBO-10
MW-04
SBO-23
DT-10B
SS-16
DT-11B
SS-18
SS-19
SS-20
SS-17
DT-12B
0
100
200
Feet
Legend
Lead 0-2 ft
ND - 125
> 125
Lead 2-4 ft
ND - 125
> 125
Lead 6-8 ft
ND - 125
> 125
Lead 12-14 ft
ND - 125
> 125
Estimated Extent of Constituent in Surface Soil 0-2 ft
Maximum Extent of Constituent in Surface Soil 0-2 ft
Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
Site Boundary
Tax Parcels
Notes:
1. Units are reported in mg/kg
2. Lead delineation criteria:
Background threshold value 125 mg/kg
Former E Cohn Property, Columbus, Georgia
Extent of Lead in Soil
Prepared By-Date: RD - 11/14/2017
Checked By-Date: TDN - 11/14/2017
Project Number: 6123140242
amec foster wheeler
Figure: 4
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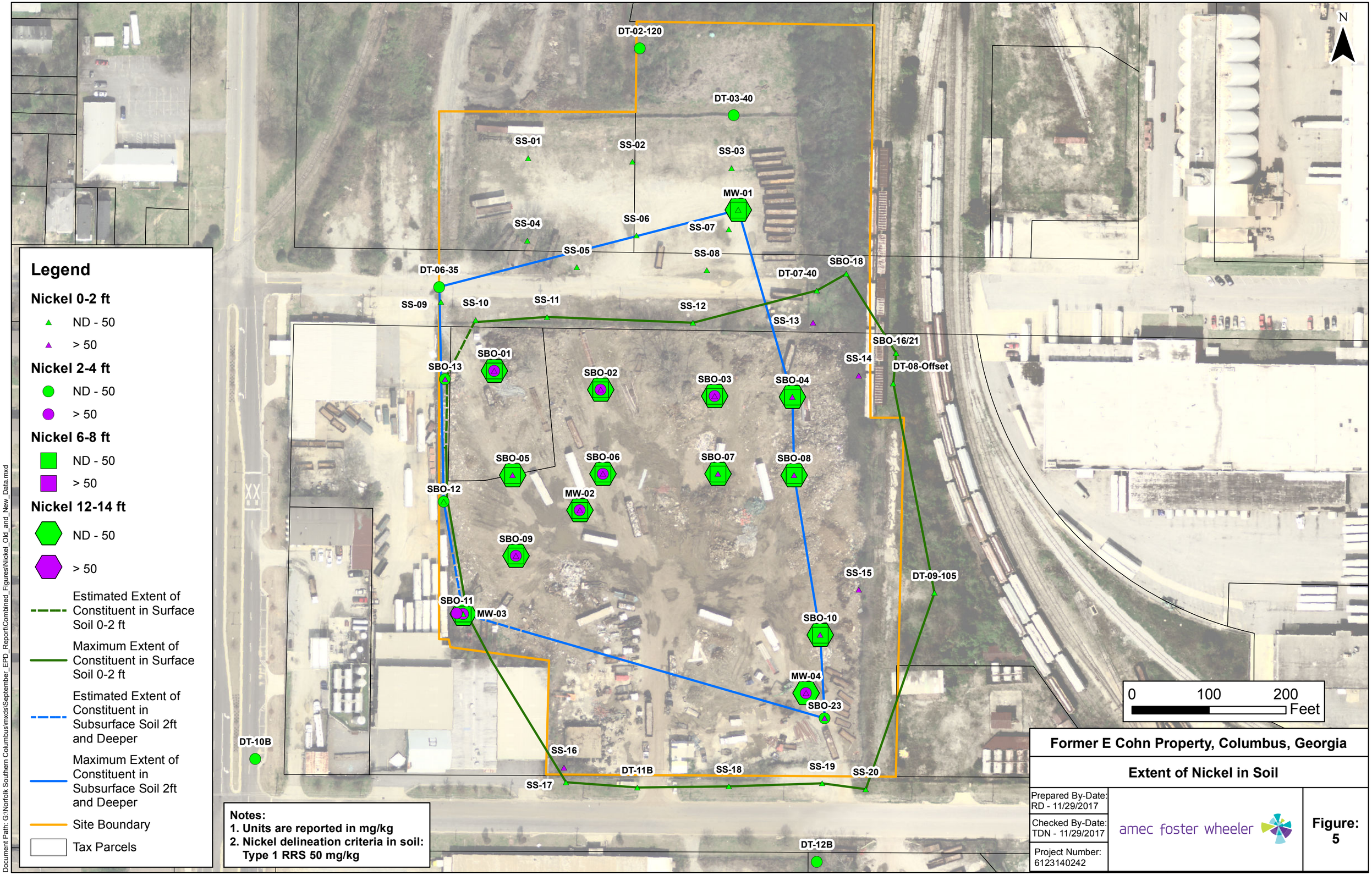

Legend

Nickel 0-2 ft

- ND - 50
- > 50

Nickel 2-4 ft

- ND - 50
- > 50

Nickel 6-8 ft

- ND - 50
- > 50

Nickel 12-14 ft

- ND - 50
- > 50

- Estimated Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Surface Soil 0-2 ft
- Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
- Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
- Site Boundary
- Tax Parcels

Notes:
1. Units are reported in mg/kg
2. Nickel delineation criteria in soil: Type 1 RRS 50 mg/kg

Former E Cohn Property, Columbus, Georgia

Extent of Nickel in Soil

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Checked By-Date: TDN - 11/29/2017		
Project Number: 6123140242		

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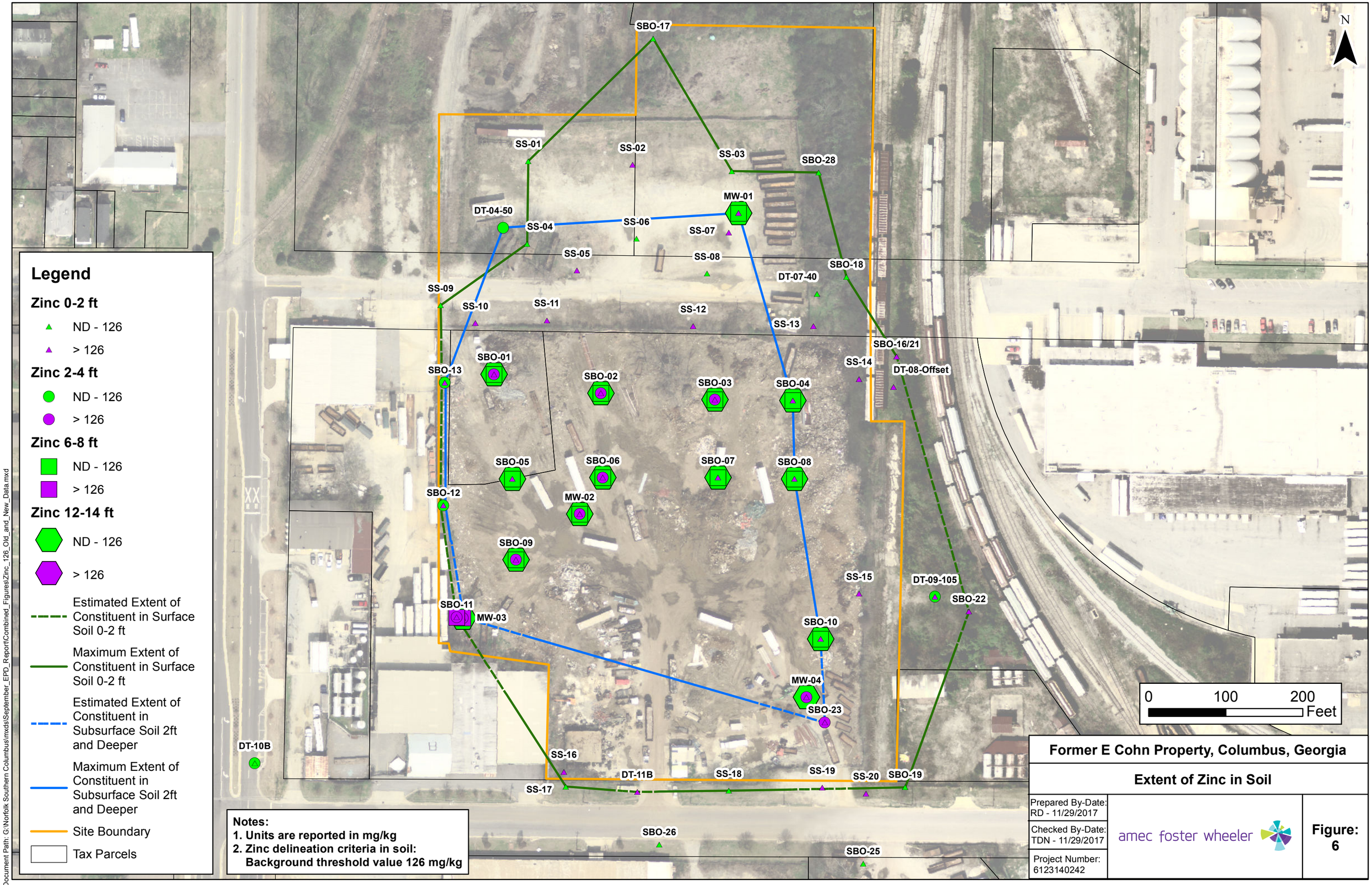

Legend

Zinc 0-2 ft

- ND - 126
- > 126

Zinc 2-4 ft

- ND - 126
- > 126

Zinc 6-8 ft

- ND - 126
- > 126

Zinc 12-14 ft

- ND - 126
- > 126

- Estimated Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Surface Soil 0-2 ft
- Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
- Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
- Site Boundary
- Tax Parcels

Notes:
1. Units are reported in mg/kg
2. Zinc delineation criteria in soil: Background threshold value 126 mg/kg

Former E Cohn Property, Columbus, Georgia

Extent of Zinc in Soil

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Checked By-Date: TDN - 11/29/2017		
Project Number: 6123140242		

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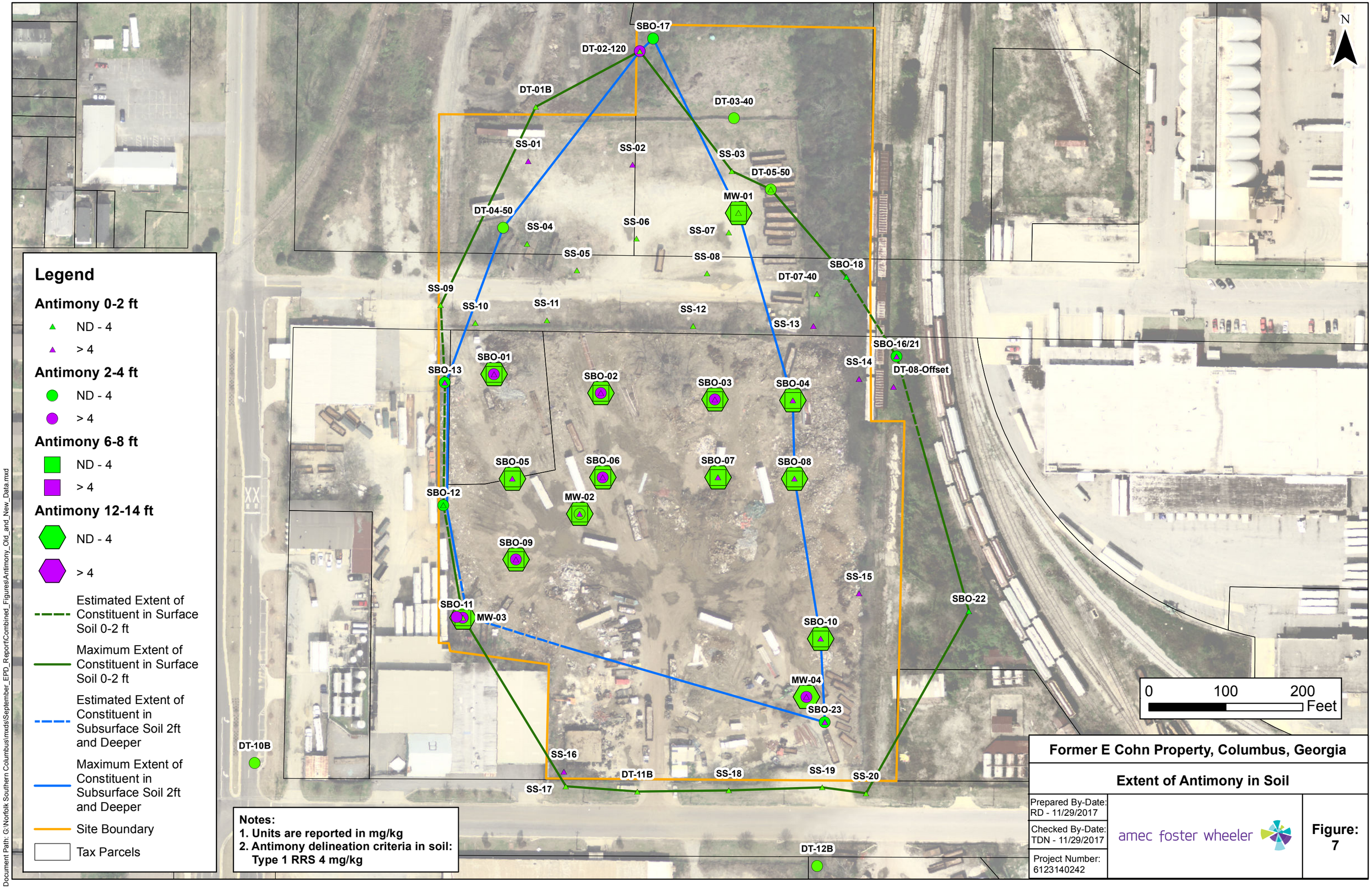
N
SBO-17
DT-02-120
DT-01B
DT-03-40
SS-01
SS-02
SS-03
DT-05-50
MW-01
DT-04-50
SS-04
SS-06
SS-07
SS-05
SS-08
SBO-18
DT-07-40
SS-09
SS-10
SS-11
SS-12
SS-13
SBO-16/21
SS-14
DT-08-Offset
SBO-13
SBO-01
SBO-02
SBO-03
SBO-04
SBO-05
SBO-06
SBO-07
SBO-08
SBO-12
MW-02
SBO-09
SS-15
SBO-22
SBO-11
MW-03
SBO-10
MW-04
SBO-23
DT-10B
SS-16
DT-11B
SS-18
SS-19
SS-20
SS-17
DT-12B
0
100
200
Feet
Legend
Antimony 0-2 ft
ND - 4
> 4
Antimony 2-4 ft
ND - 4
> 4
Antimony 6-8 ft
ND - 4
> 4
Antimony 12-14 ft
ND - 4
> 4
Estimated Extent of Constituent in Surface Soil 0-2 ft
Maximum Extent of Constituent in Surface Soil 0-2 ft
Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
Site Boundary
Tax Parcels
Notes:
1. Units are reported in mg/kg
2. Antimony delineation criteria in soil: Type 1 RRS 4 mg/kg
Former E Cohn Property, Columbus, Georgia
Extent of Antimony in Soil
Prepared By-Date: RD - 11/29/2017
Checked By-Date: TDN - 11/29/2017
Project Number: 6123140242
amec foster wheeler
Figure: 7
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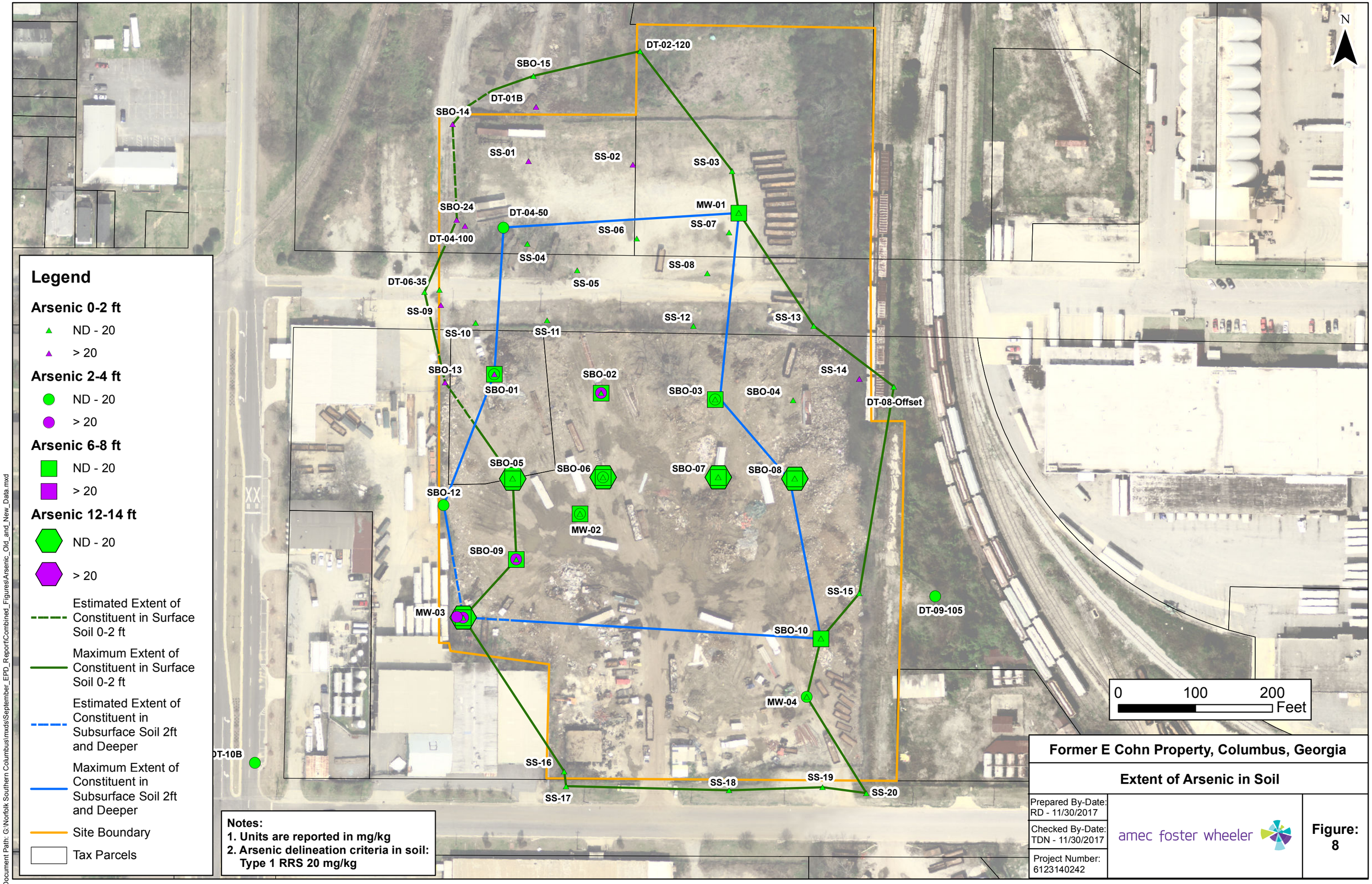

Legend

Arsenic 0-2 ft

- ND - 20
- > 20

Arsenic 2-4 ft

- ND - 20
- > 20

Arsenic 6-8 ft

- ND - 20
- > 20

Arsenic 12-14 ft

- ND - 20
- > 20

- Estimated Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Surface Soil 0-2 ft
- Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
- Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
- Site Boundary
- Tax Parcels

Notes:
1. Units are reported in mg/kg
2. Arsenic delineation criteria in soil: Type 1 RRS 20 mg/kg

Former E Cohn Property, Columbus, Georgia

Extent of Arsenic in Soil

Prepared By-Date: RD - 11/30/2017	amec foster wheeler	Figure: 8
Checked By-Date: TDN - 11/30/2017		
Project Number: 6123140242		

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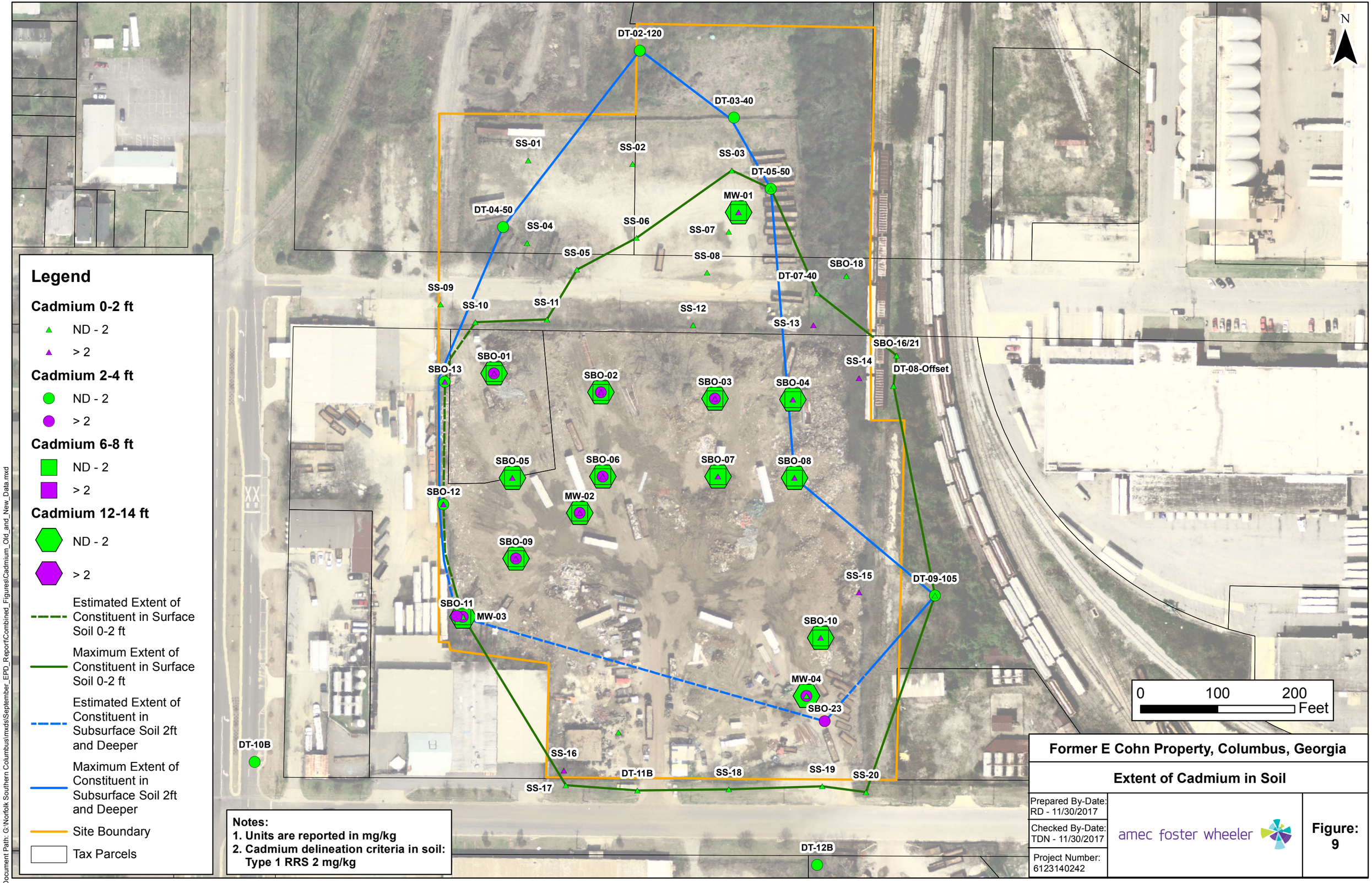

Legend

Cadmium 0-2 ft

- ND - 2
- > 2

Cadmium 2-4 ft

- ND - 2
- > 2

Cadmium 6-8 ft

- ND - 2
- > 2

Cadmium 12-14 ft

- ND - 2
- > 2

- Estimated Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Surface Soil 0-2 ft
- Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
- Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
- Site Boundary
- Tax Parcels

Notes:
1. Units are reported in mg/kg
2. Cadmium delineation criteria in soil: Type 1 RRS 2 mg/kg

Former E Cohn Property, Columbus, Georgia

Extent of Cadmium in Soil

Prepared By-Date: RD - 11/30/2017	amec foster wheeler	Figure: 9
Checked By-Date: TDN - 11/30/2017		
Project Number: 6123140242		

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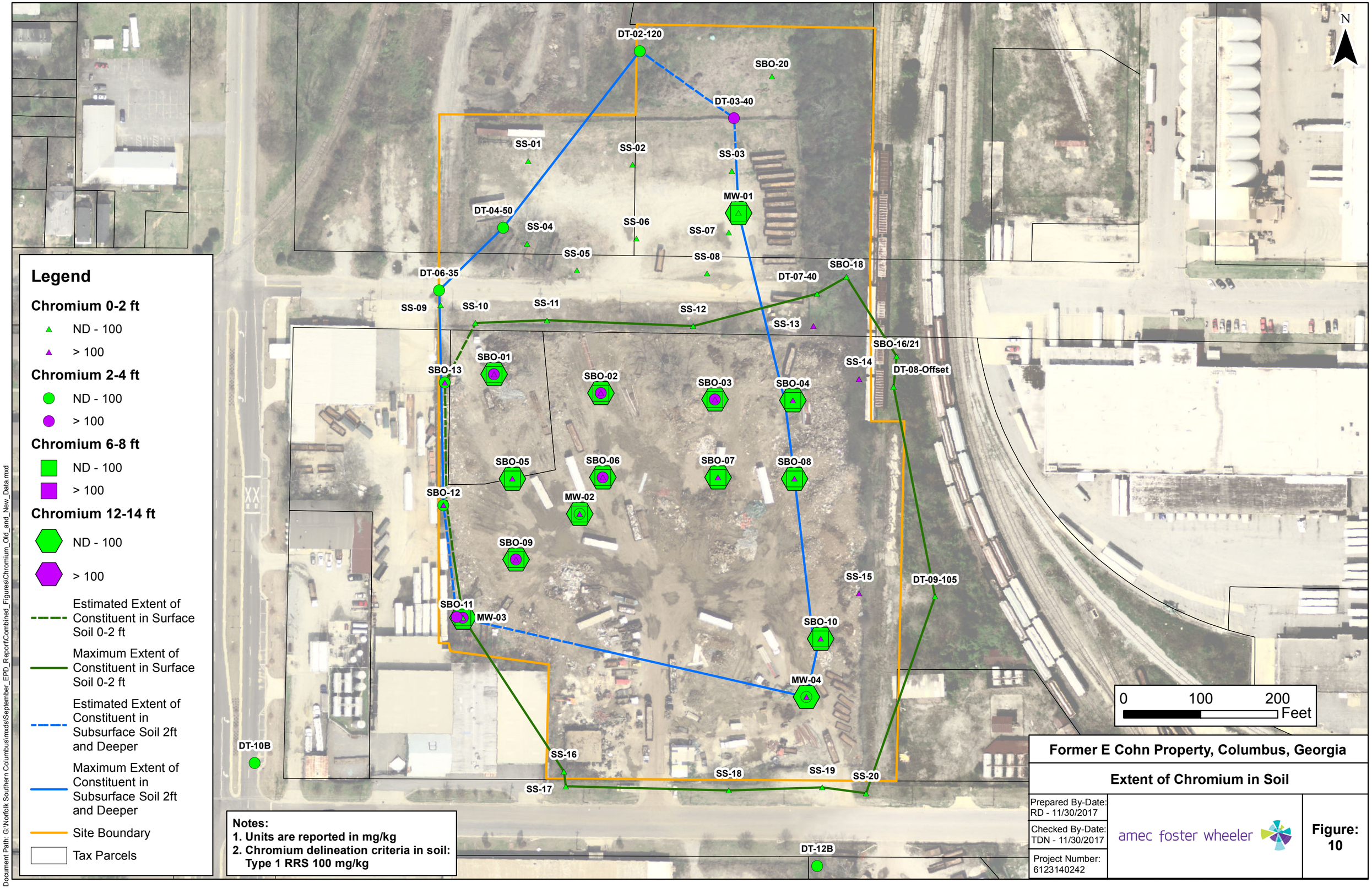

Legend

Chromium 0-2 ft

- ND - 100
- > 100

Chromium 2-4 ft

- ND - 100
- > 100

Chromium 6-8 ft

- ND - 100
- > 100

Chromium 12-14 ft

- ND - 100
- > 100

- Estimated Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Surface Soil 0-2 ft
- Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
- Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
- Site Boundary
- Tax Parcels

Notes:
1. Units are reported in mg/kg
2. Chromium delineation criteria in soil: Type 1 RRS 100 mg/kg

Former E Cohn Property, Columbus, Georgia

Extent of Chromium in Soil

Prepared By-Date: RD - 11/30/2017	amec foster wheeler	Figure: 10
Checked By-Date: TDN - 11/30/2017		
Project Number: 6123140242		

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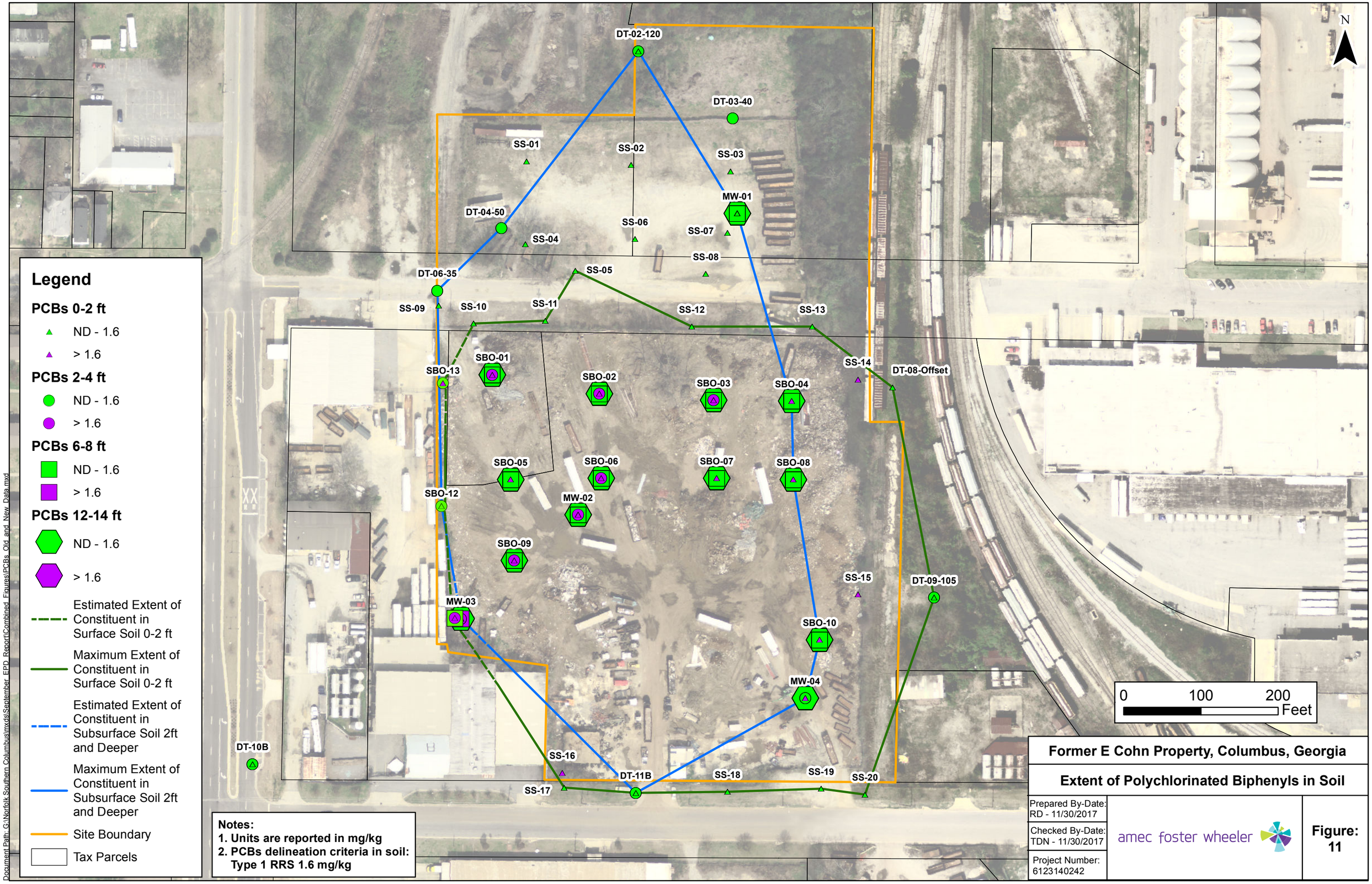
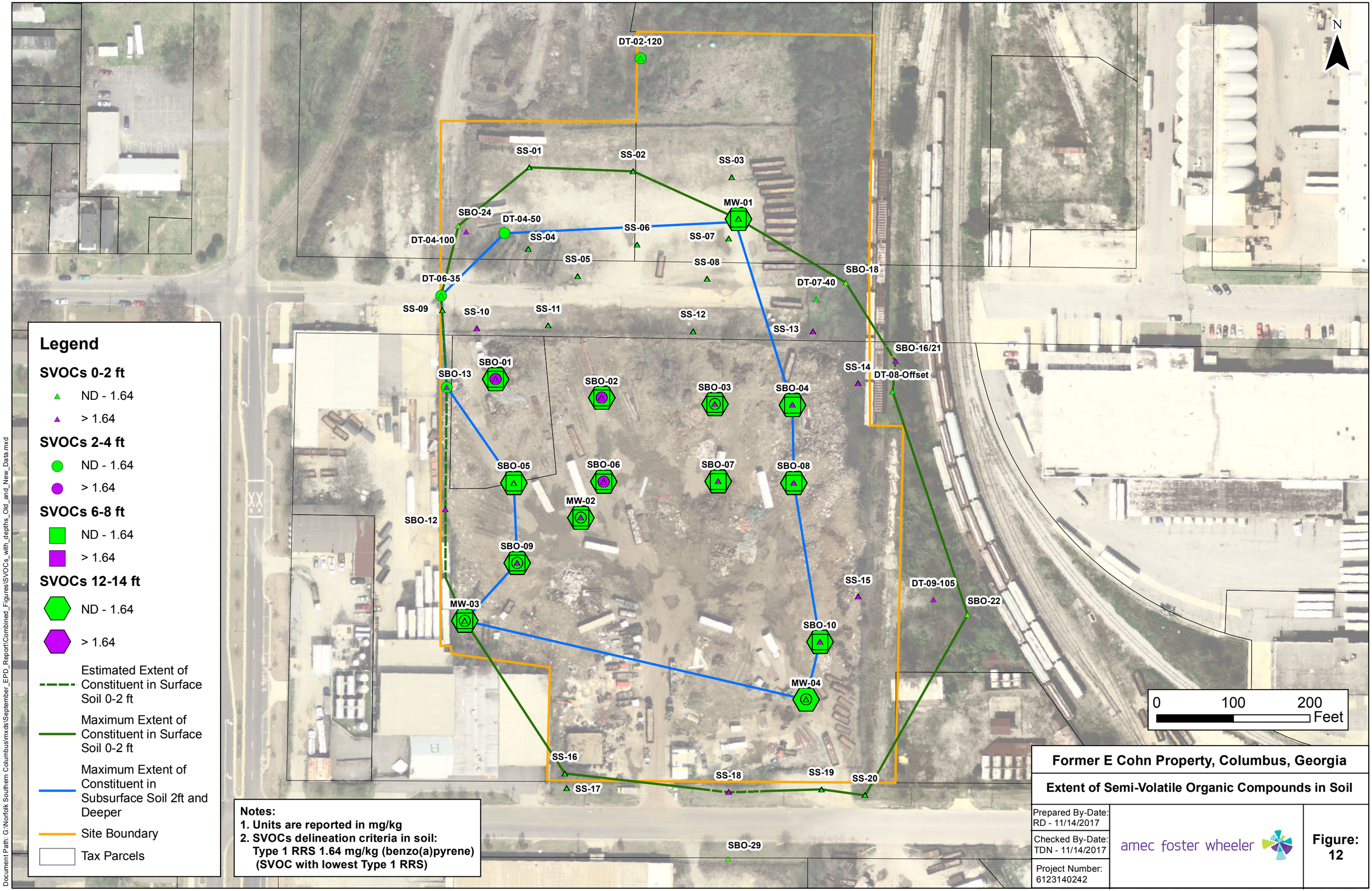

N
DT-02-120
DT-03-40
SS-01
SS-02
SS-03
MW-01
DT-04-50
SS-06
SS-07
SS-04
SS-08
DT-06-35
SS-05
SS-09
SS-10
SS-11
SS-12
SS-13
SBO-13
SBO-01
SBO-02
SBO-03
SBO-04
SS-14
DT-08-Offset
SBO-05
SBO-06
SBO-07
SBO-08
SBO-12
MW-02
SBO-09
SS-15
DT-09-105
MW-03
SBO-10
MW-04
DT-10B
SS-16
SS-17
DT-11B
SS-18
SS-19
SS-20
0
100
200
Feet
Legend
PCBs 0-2 ft
ND - 1.6
> 1.6
PCBs 2-4 ft
ND - 1.6
> 1.6
PCBs 6-8 ft
ND - 1.6
> 1.6
PCBs 12-14 ft
ND - 1.6
> 1.6
Estimated Extent of Constituent in Surface Soil 0-2 ft
Maximum Extent of Constituent in Surface Soil 0-2 ft
Estimated Extent of Constituent in Subsurface Soil 2ft and Deeper
Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
Site Boundary
Tax Parcels
Notes:
1. Units are reported in mg/kg
2. PCBs delineation criteria in soil: Type 1 RRS 1.6 mg/kg
Former E Cohn Property, Columbus, Georgia
Extent of Polychlorinated Biphenyls in Soil
Prepared By-Date: RD - 11/30/2017
Checked By-Date: TDN - 11/30/2017
Project Number: 6123140242
amec foster wheeler
Figure: 11
Document Path: G:\Norfolk Southern Columbus\mxds\September EPD Report\Combined Figures\PCBs Old and New Data.mxd



Legend

SVOCs 0-2 ft

- ND - 1.64
- > 1.64

SVOCs 2-4 ft

- ND - 1.64
- > 1.64

SVOCs 6-8 ft

- ND - 1.64
- > 1.64

SVOCs 12-14 ft

- ND - 1.64
- > 1.64

- Estimated Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
- Site Boundary
- Tax Parcels

Notes:
1. Units are reported in mg/kg
2. SVOCs delineation criteria in soil: Type 1 RRS 1.64 mg/kg (benzo(a)pyrene) (SVOC with lowest Type 1 RRS)

Former E Cohn Property, Columbus, Georgia

Extent of Semi-Volatile Organic Compounds in Soil

Prepared By-Date: RD - 11/14/2017	amec foster wheeler	Figure: 12
Checked By-Date: TDN - 11/14/2017		
Project Number: 6123140242		

Document Path: G:\Norfolk Southern Columbus\mxds\September_EPD_Report\Combined_Figures\SVOCs_with_depths_Old_and_New_Data.mxd

N

SBO-20
DT-03-40
SS-01
SS-02
SS-03
SBO-28
DT-05-50
MW-01
SS-04
SS-06
SS-07
SS-05
SS-08
SBO-18
DT-06-35
SS-09
SS-10
SS-11
SS-12
SS-13
SBO-01
SS-14
SBO-13
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

- ND - 0.5
- > 0.5

VOCs 2-4 ft

- ND - 0.5
- > 0.5

VOCs 6-8 ft

- ND - 0.5
- > 0.5

VOCs 12-14 ft

- ND - 0.5
- > 0.5

- Maximum Extent of Constituent in Surface Soil 0-2 ft
- Maximum Extent of Constituent in Subsurface Soil 2ft and Deeper
- Site Boundary
- Tax Parcels

Notes:
1. Units are reported in mg/kg
2. VOCs delineation criteria in soil:
   Type 1 RRS 0.5 mg/kg
   (tetrachloroethene and trichloroethene)

0 100 200 Feet

Former E Cohn Property, Columbus, Georgia

Extent of Volatile Organic Compounds in Soil

Prepared By-Date: RD - 11/14/2017
Checked By-Date: TDN - 11/14/2017
Project Number: 6123140242

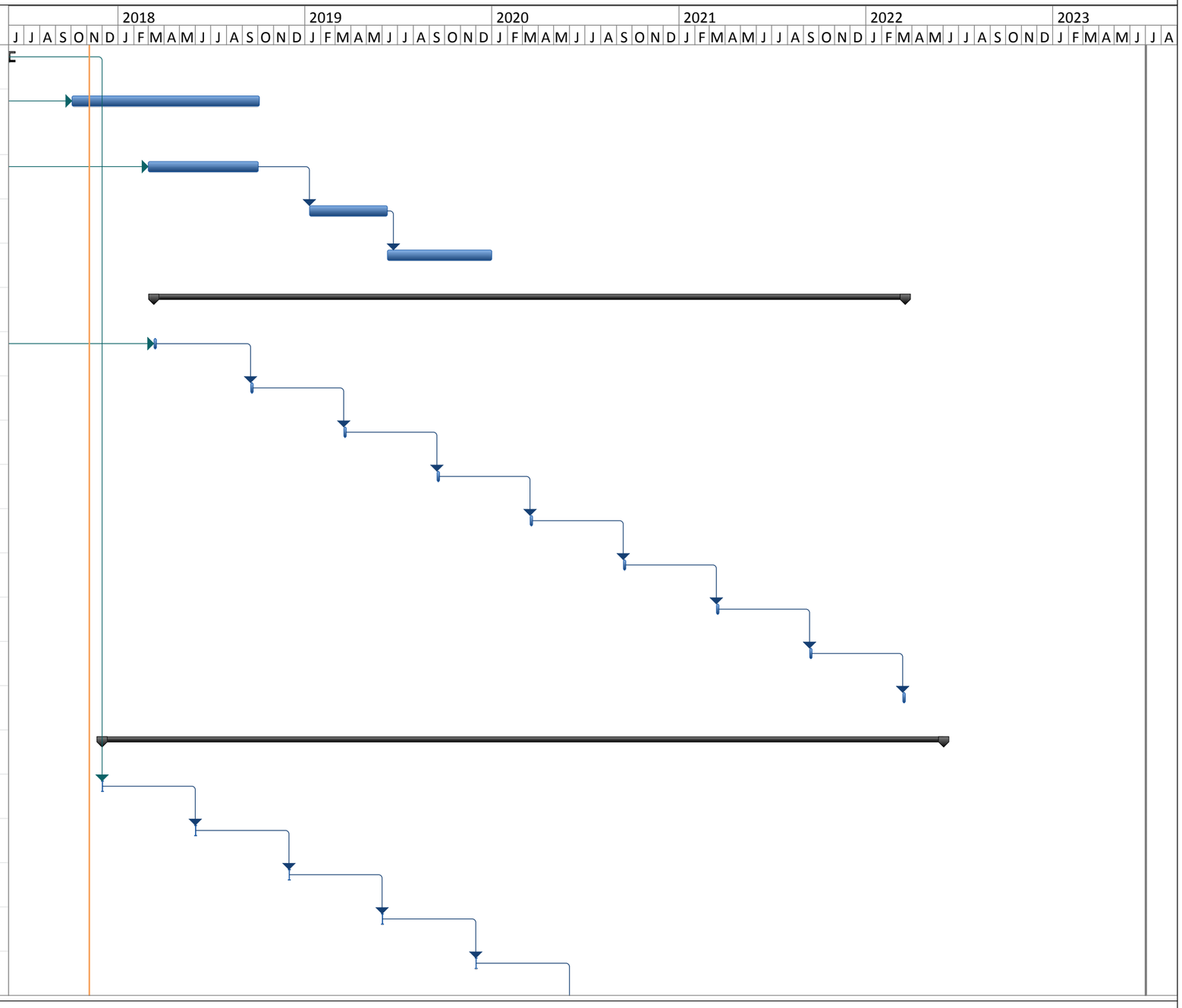
amec foster wheeler

Figure: 13

Document Path: G:\Norfolk Southern Columbus\mxds\September_EPD_Report\Combined_Figures\VOCs_Old_and_New_Data.mxd

FIGURE 14 - SCHEDULE FOR VOLUNTARY INVESTIGATION AND REMEDIATION PLAN
FORMER E COHN PROPERTY

ID	Task Name	Duration	Start	Finish	Predecessors
1	EPD Approval of VRP Application	1 day	Thu 6/1/17	Thu 6/1/17	
2	Human Health Risk Assessment, Delineation Activities	366 days	Tue 10/3/17	Wed 10/3/18	1SS+124 days
3	Delineation and Pre-Design Activities	215 days	Thu 3/1/18	Mon 10/1/18	1SS+273 days
4	Remedy Deisgn and Contractor Procurement	152 days	Thu 1/10/19	Mon 6/10/19	3FS+100 days
5	Remedy Implementation	204 days	Tue 6/11/19	Tue 12/31/19	4
6	**Semi-Annual Sampling Event**	**1468 days**	**Mon 3/12/18**	**Fri 3/18/22**	
7	Semi-Annual Sampling Event 1	5 days	Mon 3/12/18	Fri 3/16/18	1SS+284 days
8	Semi-Annual Sampling Event 2	5 days	Mon 9/17/18	Fri 9/21/18	7FS+184 days
9	Semi-Annual Sampling Event 3	5 days	Mon 3/18/19	Fri 3/22/19	8FS+177 days
10	Semi-Annual Sampling Event 4	5 days	Mon 9/16/19	Fri 9/20/19	9FS+177 days
11	Semi-Annual Sampling Event 5	5 days	Mon 3/16/20	Fri 3/20/20	10FS+177 days
12	Semi-Annual Sampling Event 6	5 days	Mon 9/14/20	Fri 9/18/20	11FS+177 days
13	Semi-Annual Sampling Event 7	5 days	Mon 3/15/21	Fri 3/19/21	12FS+177 days
14	Semi-Annual Sampling Event 8	5 days	Mon 9/13/21	Fri 9/17/21	13FS+177 days
15	Semi-Annual Sampling Event 9	5 days	Mon 3/14/22	Fri 3/18/22	14FS+177 days
16	**Submit Semi-Annual Status Report**	**1644 days**	**Fri 12/1/17**	**Wed 6/1/22**	
17	Submit Semi-Annual Status Report 1	1 day	Fri 12/1/17	Fri 12/1/17	1FS+182 days
18	Submit Semi-Annual Status Report 2	1 day	Fri 6/1/18	Fri 6/1/18	17FS+181 days
19	Submit Semi-Annual Status Report 3	1 day	Sat 12/1/18	Sat 12/1/18	18FS+180 days
20	Submit Semi-Annual Status Report 4	1 day	Sat 6/1/19	Sat 6/1/19	19FS+181 days
21	Submit Semi-Annual Status Report 5	1 day	Sun 12/1/19	Sun 12/1/19	20FS+182 days

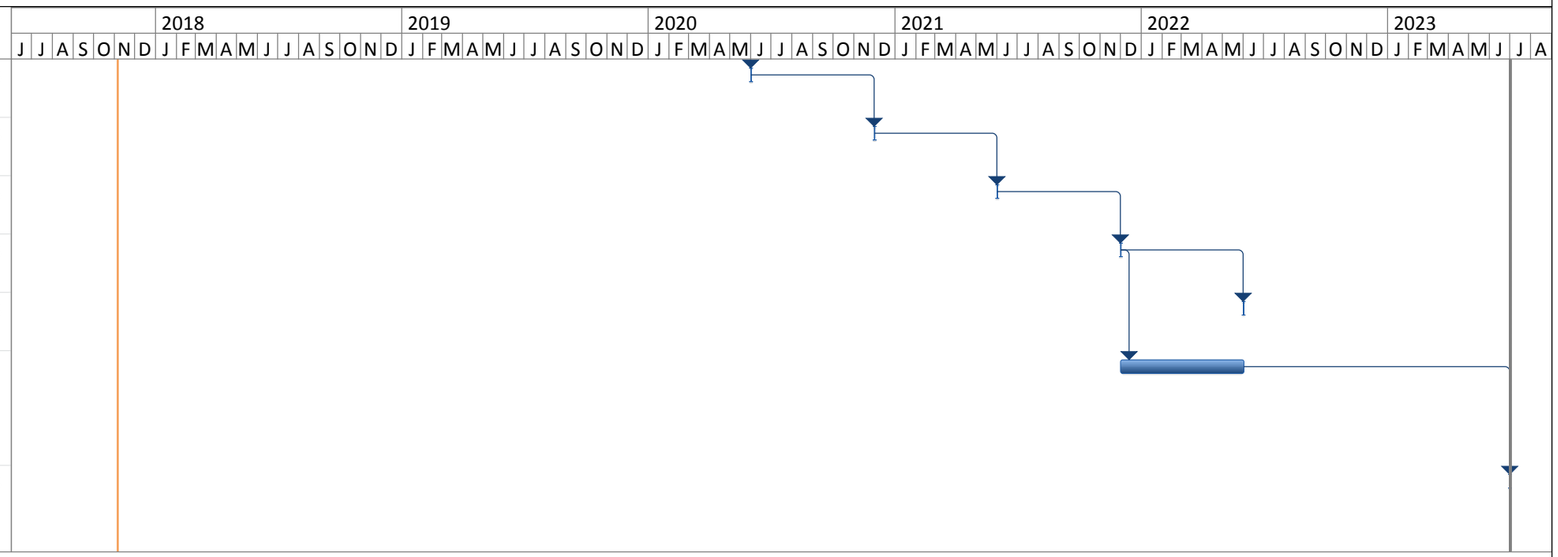


Norfolk Southern
Former E. Cohn Property
Columbus, Georgia

Task Summary Manual Task

FIGURE 14 - SCHEDULE FOR VOLUNTARY INVESTIGATION AND REMEDIATION PLAN
FORMER E COHN PROPERTY

ID	Task Name	Duration	Start	Finish	Predecessors
22	Submit Semi-Annual Status Report 6	1 day	Mon 6/1/20	Mon 6/1/20	21FS+182 days
23	Submit Semi-Annual Status Report 7	1 day	Tue 12/1/20	Tue 12/1/20	22FS+182 days
24	Submit Semi-Annual Status Report 8	1 day	Tue 6/1/21	Tue 6/1/21	23FS+181 days
25	Submit Semi-Annual Status Report 9	1 day	Wed 12/1/21	Wed 12/1/21	24FS+182 days
26	Submit Semi-Annual Status Report 10	1 day	Wed 6/1/22	Wed 6/1/22	25FS+181 days
27	Preparation and Submittal of Post-Remediation CSR	183 days	Wed 12/1/21	Wed 6/1/22	25FS-1 day
28	Implement Uniform Environmental Covenant	1 day	Sat 7/1/23	Sat 7/1/23	27FS+394 days



Norfolk Southern
Former E. Cohn Property
Columbus, Georgia

Task Summary Manual Task

APPENDICES

APPENDIX A

LABORATORY REPORTS FOR OCTOBER 2016 SOIL SAMPLING

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: November 09, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 10/20/2016
Group Number: 1724121
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
SBO-12-0-2-101916 Grab Soil	8657728
SBO-12-0-2-101916 MS Grab Soil	8657729
SBO-12-0-2-101916 MSD Grab Soil	8657730
DUP-02-101916 Grab Soil	8657731
SBO-12-2-4-101916 Grab Soil	8657732
SBO-13-2-4-101916 Grab Soil	8657733
SBO-13-0-2-101916 Grab Soil	8657734
SBO-13-0-2-101916 MS Grab Soil	8657735
SBO-13-0-2-101916 MSD Grab Soil	8657736
SBO-13-0-2-101916 DUP Grab Soil	8657737
SBO-11-6-8-101916 Grab Soil	8657738
SBO-19-0-2-101816 Grab Soil	8657739
SBO-29-0-2-101816 Grab Soil	8657740
SBO-26-0-2-101816 Grab Soil	8657741
SBO-25-0-2-101816 Grab Soil	8657742
SBO-11-0-2-101816 Grab Soil	8657743
SBO-11-2-4-101816 Grab Soil	8657744
DUP-01-101816 Grab Soil	8657745
SBO-23-0-2-101916 Grab Soil	8657746
SBO-23-2-4-101916 Grab Soil	8657747
SBO-20-0-2-101916 Grab Soil	8657748
DUP-03-101916 Grab Soil	8657749
SBO-15-0-2-101916 Grab Soil	8657750
SBO-15-2-4-101916 Grab Soil	8657751
SBO-27-0-2-101916 Grab Soil	8657752

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 current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Amec Foster Wheeler	Attn: Rhonda Quinn
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 #: 1724121

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 #: 16303SLC026 (Sample number(s): 8657728-8657730, 8657733, 8657740 UNSPK: 8657728)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(b)fluoranthene, Benzo(a)pyrene

Batch #: 16306SLE026 (Sample number(s): 8657734 UNSPK: P660527)

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

Batch #: 16307SLB026 (Sample number(s): 8657731 UNSPK: 8657731)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(a)anthracene, Chrysene, bis(2-Ethylhexyl)phthalate, Benzo(b)fluoranthene, Benzo(a)pyrene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Chrysene, Benzo(b)fluoranthene

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

Sample #s: 8657733

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

Batch #: 163030015A (Sample number(s): 8657728, 8657732-8657736, 8657738, 8657743-8657745 UNSPK: 8657728, 8657734)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8657744, 8657745

SW-846 6010C, Metals

Batch #: 163000637002 (Sample number(s): 8657728, 8657732-8657737 UNSPK: 8657734 BKG: 8657734)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Copper, Lead, Manganese, Nickel, Zinc

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

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

Batch #: 163000637003 (Sample number(s): 8657738-8657748 UNSPK: P658616 BKG: P658616)

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: Lead

SW-846 6020A, Metals

Batch #: 163000637002A (Sample number(s): 8657728, 8657732-8657737, 8657751 UNSPK: 8657734 BKG: 8657734)

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

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

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Antimony, Lead

Batch #: 163000637003A (Sample number(s): 8657740, 8657744-8657748, 8657750, 8657752 UNSPK: P658616 BKG: P658616)

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

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Antimony, Arsenic

SW-846 7471B, Metals

Batch #: 163000638002 (Sample number(s): 8657728, 8657735-8657737 UNSPK: 8657728 BKG: 8657728)

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

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

Batch #: 163050638002 (Sample number(s): 8657734, 8657744-8657745, 8657750-8657751 UNSPK: P660527 BKG: P660527)

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

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

SM 2540 G-1997, Wet Chemistry

Batch #: 16301820007A (Sample number(s): 8657728-8657730 BKG: 8657728)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture, Moisture, Moisture Duplicate

Sample Description: SBO-12-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657728
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 08:52 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON01

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)anthracene	56-55-3	4,100	190	37	10
10726	Benzo(a)pyrene	50-32-8	2,300	190	37	10
10726	Benzo(b)fluoranthene	205-99-2	4,800	190	37	10
10726	Chrysene	218-01-9	5,000	190	37	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 1,900	1,900	740	10
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1248	12672-29-6	< 190	190	37	10
10885	PCB-1254	11097-69-1	1,600	190	37	10
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	263	7.56	0.869	5
06955	Lead	7439-92-1	260	11.3	2.08	5
06958	Manganese	7439-96-5	919	0.756	0.0627	1
06961	Nickel	7440-02-0	35.4	1.51	0.227	1
06972	Zinc	7440-66-6	732	15.1	2.57	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	2.43	0.302	0.0742	2
06128	Cadmium	7440-43-9	3.08	0.151	0.0293	2
06131	Chromium	7440-47-3	122	0.605	0.0893	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.302	0.103	0.0103	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
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16303SLC026	10/31/2016 23:25	Anthony P Bauer	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1

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

Sample Description: SBO-12-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657728
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 08:52 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON01

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	163030015A	11/02/2016 23:51	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637002	10/31/2016 19:00	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	163000637002	10/31/2016 19:00	Cindy M Gehman	5
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 22:44	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 22:44	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/31/2016 19:00	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:09	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 15:09	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637002A	11/09/2016 07:05	Scott P Cuff	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 09:52	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	3	16301820007A	10/27/2016 20:24	Scott W Freisher	1

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

Sample Description: SBO-12-0-2-101916 MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657729
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 08:52 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON01

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)anthracene	56-55-3	5,800	190	37	10
10726	Benzo(a)pyrene	50-32-8	3,500	190	37	10
10726	Benzo(b)fluoranthene	205-99-2	6,000	190	37	10
10726	Chrysene	218-01-9	6,900	190	37	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 1,900	1,900	740	10
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00118	Moisture	n.a.	10.6	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	16303SLC026	10/31/2016 23:52	Anthony P Bauer	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
00118	Moisture	SM 2540 G-1997	3	16301820007A	10/27/2016 20:24	Scott W Freisher	1

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

Sample Description: SBO-12-0-2-101916 MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657730
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 08:52 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON01

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)anthracene	56-55-3	6,000	190	37	10
10726	Benzo(a)pyrene	50-32-8	4,000	190	37	10
10726	Benzo(b)fluoranthene	205-99-2	6,200	190	37	10
10726	Chrysene	218-01-9	7,000	190	37	10
10726	bis(2-Ethylhexyl)phthalate	117-81-7	2,000	1,900	740	10
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	10.6	0.50	0.50	1
00121	Moisture Duplicate	n.a.	9.8	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
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16303SLC026	11/01/2016 00:19	Anthony P Bauer	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
00118	Moisture	SM 2540 G-1997	3	16301820007A	10/27/2016 20:24	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16301820007A	10/27/2016 20:24	Scott W Freisher	1

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

Sample Description: DUP-02-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657731
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON02

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)anthracene	56-55-3	4,600	94	18	5
10726	Benzo(a)pyrene	50-32-8	2,400	94	18	5
10726	Benzo(b)fluoranthene	205-99-2	5,100	94	18	5
10726	Chrysene	218-01-9	5,500	94	18	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	< 940	940	370	5
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.

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	16307SLB026	11/03/2016 05:32	Joseph M Gambler	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16307SLB026	11/02/2016 19:30	Sally L Appleyard	1
00111	Moisture	SM 2540 G-1997	3	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-12-2-4-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657732
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:18 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON03

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-1248	12672-29-6	< 19	19	3.7	1
10885	PCB-1254	11097-69-1	< 19	19	3.7	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	16.6	2.01	0.231	1
06955	Lead	7439-92-1	130	15.1	2.77	5
06958	Manganese	7439-96-5	247	1.01	0.0835	1
06961	Nickel	7440-02-0	13.4	2.01	0.302	1
06972	Zinc	7440-66-6	60.0	4.02	0.684	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.402	0.402	0.0987	2
06125	Arsenic	7440-38-2	3.48	0.804	0.148	2
06128	Cadmium	7440-43-9	< 0.201	0.201	0.0390	2
06131	Chromium	7440-47-3	39.7	0.804	0.119	2
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
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/03/2016 00:02	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637002	10/28/2016 23:45	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	163000637002	10/31/2016 19:09	Cindy M Gehman	5
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 23:45	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 23:45	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/28/2016 23:45	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:25	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	163000637002A	11/01/2016 15:25	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 15:25	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:39	Choon Y Tian	2

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

Sample Description: SBO-12-2-4-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657732
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:18 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON03

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	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	3	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-13-2-4-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657733
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:29 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON04

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	Methylcyclohexane	108-87-2	< 4	4	0.9	0.78
11995	Tetrachloroethene	127-18-4	< 4	4	0.9	0.78
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene	50-32-8	< 19	19	4	1
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1248	12672-29-6	< 390	390	76	20
10885	PCB-1254	11097-69-1	< 390	390	76	20
	Reporting limits were raised due to interference from the sample matrix.					
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	13.0	1.96	0.226	1
06955	Lead	7439-92-1	< 2.95	2.95	0.540	1
06958	Manganese	7439-96-5	390	0.982	0.0815	1
06961	Nickel	7440-02-0	12.0	1.96	0.295	1
06972	Zinc	7440-66-6	52.6	3.93	0.668	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.393	0.393	0.0965	2
06128	Cadmium	7440-43-9	< 0.196	0.196	0.0381	2
06131	Chromium	7440-47-3	34.3	0.786	0.116	2
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.					

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	A163001AA	10/26/2016 23:15	Patrick T Herres	0.78
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629843103	10/19/2016 09:29	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629843103	10/19/2016 09:29	Client Supplied	1

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

Sample Description: SBO-13-2-4-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657733
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:29 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201629843103	10/19/2016 09:29	Client Supplied	1
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16303SLC026	11/01/2016 07:34	Joseph M Gambler	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/03/2016 00:14	Jessica L Miller	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637002	10/28/2016 22:59	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	163000637002	10/28/2016 22:59	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 22:59	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 22:59	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/28/2016 22:59	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:12	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 15:12	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:35	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	3	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-13-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657734
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON05

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	5,200	180	36	10
Pesticides/PCBs	**SW-846 8082A Feb 2007 Rev 1**		**ug/kg**	**ug/kg**	**ug/kg**	
10885	PCB-1248	12672-29-6	< 910	910	180	50
10885	PCB-1254	11097-69-1	5,000	910	180	50
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	467	9.51	1.09	5
06955	Lead	7439-92-1	752	14.3	2.62	5
06958	Manganese	7439-96-5	768	0.951	0.0790	1
06961	Nickel	7440-02-0	96.4	1.90	0.285	1
06972	Zinc	7440-66-6	1,410	19.0	3.23	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	7.86	0.381	0.0934	2
06125	Arsenic	7440-38-2	146	0.761	0.140	2
06128	Cadmium	7440-43-9	4.88	0.190	0.0369	2
06131	Chromium	7440-47-3	147	0.761	0.112	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.811	0.265	0.0265	2.5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	7.8	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	16306SLE026	11/02/2016 17:00	Holly B Ziegler	10
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16306SLE026	11/02/2016 02:30	Sherry L Morrow	1
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/03/2016 00:36	Jessica L Miller	50

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

Sample Description: SBO-13-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657734
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON05

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	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637002	10/31/2016 18:42	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	163000637002	10/31/2016 18:42	Cindy M Gehman	5
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 22:18	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 22:18	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/31/2016 18:42	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 14:51	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	163000637002A	11/01/2016 14:51	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 14:51	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:17	Choon Y Tian	2
00159	Mercury	SW-846 7471B	2	163050638002	11/03/2016 09:51	Damary Valentin	2.5
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638003	10/28/2016 09:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	2	163050638002	11/01/2016 03:00	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-13-0-2-101916 MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657735
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON05

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-1248	12672-29-6	< 920	920	180	50
10885	PCB-1254	11097-69-1	5,900	920	180	50
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	400	9.27	1.07	5
06955	Lead	7439-92-1	537	13.9	2.55	5
06958	Manganese	7439-96-5	765	0.927	0.0769	1
06961	Nickel	7440-02-0	118	1.85	0.278	1
06972	Zinc	7440-66-6	1,280	18.5	3.15	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	17.1	0.371	0.0910	2
06125	Arsenic	7440-38-2	140	0.742	0.137	2
06128	Cadmium	7440-43-9	5.76	0.185	0.0360	2
06131	Chromium	7440-47-3	277	0.742	0.110	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.878	0.250	0.0250	2.5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	7.8	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
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/03/2016 00:48	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637002	10/31/2016 18:51	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	163000637002	10/31/2016 18:51	Cindy M Gehman	5
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 22:29	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 22:29	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/31/2016 18:51	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 14:56	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	163000637002A	11/01/2016 14:56	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 14:56	Scott P Cuff	2

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

Sample Description: SBO-13-0-2-101916 MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657735
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:22	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 10:08	Damary Valentin	2.5
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-13-0-2-101916 MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657736
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON05

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-1248	12672-29-6	< 920	920	180	50
10885	PCB-1254	11097-69-1	6,100	920	180	50
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	607	9.19	1.06	5
06955	Lead	7439-92-1	460	13.8	2.53	5
06958	Manganese	7439-96-5	673	0.919	0.0763	1
06961	Nickel	7440-02-0	109	1.84	0.276	1
06972	Zinc	7440-66-6	1,050	18.4	3.13	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	17.7	0.368	0.0903	2
06125	Arsenic	7440-38-2	193	0.735	0.136	2
06128	Cadmium	7440-43-9	4.81	0.184	0.0357	2
06131	Chromium	7440-47-3	182	0.735	0.109	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.695	0.105	0.0105	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	7.8	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
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/03/2016 00:59	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637002	10/31/2016 18:54	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	163000637002	10/31/2016 18:54	Cindy M Gehman	5
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 22:33	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 22:33	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/31/2016 18:54	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 14:58	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	163000637002A	11/01/2016 14:58	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 14:58	Scott P Cuff	2

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

Sample Description: SBO-13-0-2-101916 MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657736
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:24	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 10:04	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-13-0-2-101916 DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657737
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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Box 13
Atlanta GA 30309

CON05

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	316	9.95	1.14	5
06955	Lead	7439-92-1	444	14.9	2.74	5
06958	Manganese	7439-96-5	770	0.995	0.0826	1
06961	Nickel	7440-02-0	62.4	1.99	0.299	1
06972	Zinc	7440-66-6	1,110	19.9	3.38	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	5.98	0.398	0.0977	2
06125	Arsenic	7440-38-2	135	0.796	0.147	2
06128	Cadmium	7440-43-9	4.03	0.199	0.0386	2
06131	Chromium	7440-47-3	147	0.796	0.118	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.736	0.103	0.0103	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	7.8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	7.5	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	163000637002	10/31/2016 18:48	Cindy M Gehman	5
06955	Lead	SW-846 6010C	1	163000637002	10/31/2016 18:48	Cindy M Gehman	5
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 22:26	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 22:26	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/31/2016 18:48	Cindy M Gehman	5
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 14:54	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	163000637002A	11/01/2016 14:54	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 14:54	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:20	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 10:00	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00118	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-13-0-2-101916 DUP Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657737
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 09:54 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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Box 13
Atlanta GA 30309

CON05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00121	Moisture Duplicate	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-11-6-8-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657738
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 10:20 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

Norfolk Southern Railway Co.
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CON06

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-1248	12672-29-6	< 92	92	18	5
10885	PCB-1254	11097-69-1	940	92	18	5
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	35.5	1.99	0.229	1
06955	Lead	7439-92-1	58.4	2.99	0.548	1
06972	Zinc	7440-66-6	479	3.98	0.677	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
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/03/2016 01:11	Jessica L Miller	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637003	11/04/2016 11:20	Joanne M Gates	1
06955	Lead	SW-846 6010C	1	163000637003	11/04/2016 11:20	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/04/2016 11:20	Joanne M Gates	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-19-0-2-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657739
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 13:34 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

Norfolk Southern Railway Co.
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CON07

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	8.79	1.40	0.162	1
06972	Zinc	7440-66-6	39.5	2.81	0.478	1
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	2.5	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
06953	Copper	SW-846 6010C	1	163000637003	11/04/2016 11:23	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/04/2016 11:23	Joanne M Gates	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-29-0-2-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657740
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 15:30 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

Norfolk Southern Railway Co.
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CON08

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	bis(2-Ethylhexyl)phthalate	117-81-7	< 180	180	69	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06958	Manganese	7439-96-5	530	0.931	0.0773	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06127	Beryllium	7440-41-7	0.966	0.186	0.0201	2
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.1	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	16303SLC026	11/01/2016 08:00	Joseph M Gambler	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
06958	Manganese	SW-846 6010C	1	163000637003	11/04/2016 11:34	Joanne M Gates	1
06127	Beryllium	SW-846 6020A	1	163000637003A	11/09/2016 08:30	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-26-0-2-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657741
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 15:36 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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CON09

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	64.8	1.58	0.182	1
06972	Zinc	7440-66-6	79.5	3.16	0.538	1
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	7.0	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
06953	Copper	SW-846 6010C	1	163000637003	11/04/2016 11:38	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/04/2016 11:38	Joanne M Gates	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-25-0-2-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657742
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 15:44 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

Norfolk Southern Railway Co.
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Atlanta GA 30309

CON10

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	655	1.05	0.0867	1
06972	Zinc	7440-66-6	102	4.18	0.711	1
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	16.8	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
06958	Manganese	SW-846 6010C	1	163000637003	11/04/2016 11:41	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/04/2016 11:41	Joanne M Gates	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-11-0-2-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657743
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 18:15 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON11

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-1248	12672-29-6	< 920	920	180	50
10885	PCB-1254	11097-69-1	8,900	920	180	50
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	544	9.55	1.10	5
06955	Lead	7439-92-1	1,460	14.3	2.62	5
06972	Zinc	7440-66-6	2,910	19.1	3.25	5
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
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/03/2016 01:22	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06953	Copper	SW-846 6010C	1	163000637003	11/08/2016 02:02	Elaine F Stoltzfus	5
06955	Lead	SW-846 6010C	1	163000637003	11/08/2016 02:02	Elaine F Stoltzfus	5
06972	Zinc	SW-846 6010C	1	163000637003	11/08/2016 02:02	Elaine F Stoltzfus	5
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-11-2-4-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657744
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 18:24 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON12

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-1248	12672-29-6	< 930	930	180	50
10885	PCB-1254	11097-69-1	7,500	930	180	50
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	19.2	1.03	0.124	1
06953	Copper	7440-50-8	820	10.3	1.18	5
06955	Lead	7439-92-1	2,330	15.4	2.83	5
06958	Manganese	7439-96-5	1,090	1.03	0.0855	1
06961	Nickel	7440-02-0	126	2.06	0.309	1
06972	Zinc	7440-66-6	4,680	20.6	3.50	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	18.1	0.412	0.101	2
06125	Arsenic	7440-38-2	31.9	0.824	0.152	2
06128	Cadmium	7440-43-9	95.4	0.206	0.0400	2
06131	Chromium	7440-47-3	179	0.824	0.122	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.388	0.104	0.0104	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.

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	163030015A	11/01/2016 13:44	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06952	Cobalt	SW-846 6010C	1	163000637003	11/04/2016 11:49	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	163000637003	11/08/2016 02:11	Elaine F Stoltzfus	5

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

Sample Description: SBO-11-2-4-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657744
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 18:24 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	1	163000637003	11/08/2016 02:11	Elaine F Stoltzfus	5
06958	Manganese	SW-846 6010C	1	163000637003	11/04/2016 11:49	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	163000637003	11/04/2016 11:49	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/08/2016 02:11	Elaine F Stoltzfus	5
06124	Antimony	SW-846 6020A	1	163000637003A	11/09/2016 08:32	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	163000637003A	11/09/2016 08:32	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637003A	11/09/2016 08:32	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637003A	11/09/2016 08:32	Scott P Cuff	2
00159	Mercury	SW-846 7471B	2	163050638002	11/02/2016 09:23	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638003	10/28/2016 09:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	2	163050638002	11/01/2016 03:00	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: DUP-01-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657745
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON13

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-1248	12672-29-6	< 930	930	180	50
10885	PCB-1254	11097-69-1	7,800	930	180	50
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	17.8	0.929	0.112	1
06953	Copper	7440-50-8	474	9.29	1.07	5
06955	Lead	7439-92-1	1,870	13.9	2.56	5
06958	Manganese	7439-96-5	994	0.929	0.0771	1
06961	Nickel	7440-02-0	167	1.86	0.279	1
06972	Zinc	7440-66-6	4,400	18.6	3.16	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	15.1	0.372	0.0913	2
06125	Arsenic	7440-38-2	29.1	0.743	0.137	2
06128	Cadmium	7440-43-9	139	0.186	0.0361	2
06131	Chromium	7440-47-3	260	0.743	0.110	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.746	0.104	0.0104	1
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
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/01/2016 13:56	Jessica L Miller	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
06952	Cobalt	SW-846 6010C	1	163000637003	11/04/2016 11:53	Joanne M Gates	1
06953	Copper	SW-846 6010C	1	163000637003	11/08/2016 02:14	Elaine F Stoltzfus	5

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

Sample Description: DUP-01-101816 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657745
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/18/2016 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	1	163000637003	11/08/2016 02:14	Elaine F Stoltzfus	5
06958	Manganese	SW-846 6010C	1	163000637003	11/04/2016 11:53	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	163000637003	11/04/2016 11:53	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/08/2016 02:14	Elaine F Stoltzfus	5
06124	Antimony	SW-846 6020A	1	163000637003A	11/09/2016 08:39	Scott P Cuff	2
06125	Arsenic	SW-846 6020A	1	163000637003A	11/09/2016 08:39	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637003A	11/09/2016 08:39	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637003A	11/09/2016 08:39	Scott P Cuff	2
00159	Mercury	SW-846 7471B	2	163050638002	11/02/2016 09:25	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638003	10/28/2016 09:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	2	163050638002	11/01/2016 03:00	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-23-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657746
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 14:03 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON14

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	246	15.3	2.80	5
06961	Nickel	7440-02-0	52.3	2.04	0.305	1
06972	Zinc	7440-66-6	473	20.4	3.46	5
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	5.39	0.407	0.0999	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
06955	Lead	SW-846 6010C	1	163000637003	11/08/2016 02:17	Elaine F Stoltzfus	5
06961	Nickel	SW-846 6010C	1	163000637003	11/04/2016 11:57	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/08/2016 02:17	Elaine F Stoltzfus	5
06124	Antimony	SW-846 6020A	1	163000637003A	11/09/2016 08:42	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-23-2-4-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657747
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 14:10 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON15

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	166	2.76	0.506	1
06961	Nickel	7440-02-0	27.8	1.84	0.276	1
06972	Zinc	7440-66-6	292	3.68	0.626	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	3.40	0.368	0.0904	2
06128	Cadmium	7440-43-9	2.02	0.184	0.0357	2
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
06955	Lead	SW-846 6010C	1	163000637003	11/04/2016 12:00	Joanne M Gates	1
06961	Nickel	SW-846 6010C	1	163000637003	11/04/2016 12:00	Joanne M Gates	1
06972	Zinc	SW-846 6010C	1	163000637003	11/04/2016 12:00	Joanne M Gates	1
06124	Antimony	SW-846 6020A	1	163000637003A	11/09/2016 08:44	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637003A	11/09/2016 08:44	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-20-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657748
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 16:30 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON16

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	87	5	0.9	0.87
11995	Trichloroethene	79-01-6	< 5	5	0.9	0.87
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	33.0	2.72	0.499	1
06958	Manganese	7439-96-5	256	0.908	0.0753	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06131	Chromium	7440-47-3	22.0	0.726	0.107	2
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
11995	8260C Soil Master	SW-846 8260C	1	A163001AA	10/27/2016 00:00	Patrick T Herres	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629843103	10/19/2016 16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629843103	10/19/2016 16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201629843103	10/19/2016 16:30	Client Supplied	1
06955	Lead	SW-846 6010C	1	163000637003	11/04/2016 12:04	Joanne M Gates	1
06958	Manganese	SW-846 6010C	1	163000637003	11/04/2016 12:04	Joanne M Gates	1
06131	Chromium	SW-846 6020A	1	163000637003A	11/09/2016 08:46	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: DUP-03-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657749
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON17

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	19,000	640	130	120.69
11995	Trichloroethene	79-01-6	540	320	64	60.34
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	5.7	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
11995	8260C Soil Master	SW-846 8260C	1	R163061AA	11/01/2016 11:06	Jennifer K Howe	60.34
11995	8260C Soil Master	SW-846 8260C	1	R163061AA	11/01/2016 15:38	Jennifer K Howe	120.69
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629843103	10/19/2016 00:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629843103	10/19/2016 00:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201629843103	10/19/2016 00:00	Client Supplied	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-15-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657750
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 18:00 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON18

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**	
06125	Arsenic	7440-38-2	14.7	0.753	0.139	2
06135	Lead	7439-92-1	176	0.376	0.0275	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.	12.9	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
06125	Arsenic	SW-846 6020A	1	163000637003A	11/09/2016 08:49	Scott P Cuff	2
06135	Lead	SW-846 6020A	1	163000637003A	11/09/2016 08:49	Scott P Cuff	2
00159	Mercury	SW-846 7471B	2	163050638002	11/02/2016 09:27	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638003	10/28/2016 09:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	2	163050638002	11/01/2016 03:00	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-15-2-4-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657751
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 18:02 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON19

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**	
06135	Lead	7439-92-1	23.5	0.404	0.0295	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.	17.4	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
06135	Lead	SW-846 6020A	1	163000637002A	11/01/2016 15:01	Scott P Cuff	2
00159	Mercury	SW-846 7471B	2	163050638002	11/02/2016 09:29	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638003	10/28/2016 09:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	2	163050638002	11/01/2016 03:00	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	Scott W Freisher	1

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

Sample Description: SBO-27-0-2-101916 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657752
LL Group # 1724121
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/19/2016 18:20 by TP

Submitted: 10/20/2016 09:45
Reported: 11/09/2016 10:21

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

CON20

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**	
06125	Arsenic	7440-38-2	2.67	0.714	0.132	2
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
06125	Arsenic	SW-846 6020A	1	163000637003A	11/09/2016 08:51	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637003	10/28/2016 17:13	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16300820006B	10/26/2016 23:27	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: 1724121
Reported: 11/09/2016 10:21

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: A163001AA	Sample number(s): 8657733,8657748		
Methylcyclohexane	< 5	5	1
Tetrachloroethene	< 5	5	1
Trichloroethene	< 5	5	1
Batch number: R163061AA	Sample number(s): 8657749		
Tetrachloroethene	< 250	250	50
Trichloroethene	< 250	250	50
Batch number: 16303SLC026	Sample number(s): 8657728-8657730,8657733,8657740		
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Chrysene	< 17	17	3
bis(2-Ethylhexyl)phthalate	< 170	170	67
Batch number: 16306SLE026	Sample number(s): 8657734		
Benzo(a)pyrene	< 17	17	3
Batch number: 16307SLB026	Sample number(s): 8657731		
Benzo(a)anthracene	< 17	17	3
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Chrysene	< 17	17	3
bis(2-Ethylhexyl)phthalate	< 170	170	67
Batch number: 163030015A	Sample number(s): 8657728,8657732-8657736,8657738,8657743-8657745		
PCB-1248	< 17	17	3.3
PCB-1254	< 17	17	3.3
	mg/kg	mg/kg	mg/kg
Batch number: 163000637002	Sample number(s): 8657728,8657732-8657737		
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: 163000637002A	Sample number(s): 8657728,8657732-8657737,8657751		
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
Lead	< 0.400	0.400	0.0292

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724121
Reported: 11/09/2016 10:21

Method Blank (continued)

Analysis Name	Result	LOQ**	MDL
	mg/kg	mg/kg	mg/kg
Batch number: 163000637003	Sample number(s): 8657738-8657748		
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: 163000637003A	Sample number(s): 8657740,8657744-8657748,8657750,8657752		
Antimony	< 0.400	0.400	0.0982
Arsenic	< 0.800	0.800	0.148
Beryllium	< 0.200	0.200	0.0216
Cadmium	< 0.200	0.200	0.0388
Chromium	< 0.800	0.800	0.118
Lead	< 0.400	0.400	0.0292
Batch number: 163000638002	Sample number(s): 8657728,8657735-8657737		
Mercury	< 0.100	0.100	0.0100
Batch number: 163050638002	Sample number(s): 8657734,8657744-8657745,8657750-8657751		
Mercury	< 0.100	0.100	0.0100

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: A163001AA	Sample number(s): 8657733,8657748								
Methylcyclohexane	20	16.3	20	15.53	82	78	62-132	5	30
Tetrachloroethene	20	18.24	20	17.32	91	87	78-120	5	30
Trichloroethene	20	18.6	20	17.99	93	90	80-120	3	30
Batch number: R163061AA	Sample number(s): 8657749								
Tetrachloroethene	1000	844.46	1000	926.23	84	93	78-120	9	30
Trichloroethene	1000	967.94	1000	1069.11	97	107	80-120	10	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16303SLC026	Sample number(s): 8657728-8657730,8657733,8657740								
Benzo(a)anthracene	1666.67	1557.96			93		76-119		
Benzo(a)pyrene	1666.67	1527.7			92		85-117		
Benzo(b)fluoranthene	1666.67	1606.85			96		79-121		
Chrysene	1666.67	1516.06			91		80-121		
bis(2-Ethylhexyl)phthalate	1666.67	1604.84			96		81-121		
Batch number: 16306SLE026	Sample number(s): 8657734								
Benzo(a)pyrene	1666.67	1617.83			97		85-117		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724121
Reported: 11/09/2016 10:21

LCS/LCSD (continued)

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: 16307SLB026	Sample number(s): 8657731								
Benzo(a)anthracene	1666.67	1711.05			103		76-119		
Benzo(a)pyrene	1666.67	1673.72			100		85-117		
Benzo(b)fluoranthene	1666.67	1851.36			111		79-121		
Chrysene	1666.67	1641.52			98		80-121		
bis(2-Ethylhexyl)phthalate	1666.67	1769.91			106		81-121		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 163000637002	Sample number(s): 8657728,8657732-8657737								
Copper	25	25.51			102		80-120		
Lead	15	15.12			101		80-120		
Manganese	50	51.33			103		80-120		
Nickel	50	51.75			104		80-120		
Zinc	50	50.23			100		80-120		
Batch number: 163000637002A	Sample number(s): 8657728,8657732-8657737,8657751								
Antimony	0.600	0.610			102		80-120		
Arsenic	1.00	1.08			108		80-120		
Cadmium	0.500	0.522			104		80-120		
Chromium	5.00	5.04			101		80-120		
Lead	1.50	1.55			103		80-120		
Batch number: 163000637003	Sample number(s): 8657738-8657748								
Cobalt	50	51.45			103		80-120		
Copper	25	25.75			103		80-120		
Lead	15	15.25			102		80-120		
Manganese	50	51.89			104		80-120		
Nickel	50	51.72			103		80-120		
Zinc	50	51.52			103		80-120		
Batch number: 163000637003A	Sample number(s): 8657740,8657744-8657748,8657750,8657752								
Antimony	0.600	0.616			103		80-120		
Arsenic	1.00	1.04			104		80-120		
Beryllium	0.400	0.406			101		80-120		
Cadmium	0.500	0.581			116		80-120		
Chromium	5.00	5.71			114		80-120		
Lead	1.50	1.58			105		80-120		
Batch number: 163000638002	Sample number(s): 8657728,8657735-8657737								
Mercury	0.100	0.0946			95		80-120		
Batch number: 163050638002	Sample number(s): 8657734,8657744-8657745,8657750-8657751								
Mercury	0.100	0.0899			90		80-120		
	%	%	%	%					
Batch number: 16300820006B	Sample number(s): 8657731-8657752								
Moisture	89.5	89.4			100		99-101		
Moisture	89.5	89.4			100		99-101		
Moisture Duplicate	89.5	89.4			100		99-101		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724121
Reported: 11/09/2016 10:21

LCS/LCSD (continued)

Analysis Name	LCS Spike Added %	LCS Conc %	LCSD Spike Added %	LCSD Conc %	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 16301820007A	Sample number(s): 8657728-8657730								
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

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: A163001AA	Sample number(s): 8657733,8657748 UNSPK: P657855									
Methylcyclohexane	< 5	19.53	22.09	19.96	23.34	113	117	62-132	6	30
Tetrachloroethene	2.42	19.53	22.43	19.96	23.37	102	105	78-120	4	30
Trichloroethene	< 5	19.53	22.21	19.96	21.71	114	109	80-120	2	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16303SLC026	Sample number(s): 8657728-8657730,8657733,8657740 UNSPK: 8657728									
Benzo(a)anthracene	3694.46	1649.08	5169.5	1644.74	5387.04	89	103	76-119	4	30
Benzo(a)pyrene	2050.3	1649.08	3161.56	1644.74	3542.09	67*	91	85-117	11	30
Benzo(b)fluoranthene	4279.56	1649.08	5321.25	1644.74	5543.95	63*	77*	79-121	4	30
Chrysene	4432.02	1649.08	6183.41	1644.74	6231.78	106	109	80-121	1	30
bis(2-Ethylhexyl)phthalate	< 1,700	1649.08	1564.18	1644.74	1747.28	95	106	81-121	11	30
Batch number: 16306SLE026	Sample number(s): 8657734 UNSPK: P660527									
Benzo(a)pyrene	20.82	1659.48	1489.39	1664.45	1129.8	88	67*	85-117	27	30
Batch number: 16307SLB026	Sample number(s): 8657731 UNSPK: 8657731									
Benzo(a)anthracene	4157.75	1666.67	5157.53	1655.63	6647.83	60*	150*	76-119	25	30
Benzo(a)pyrene	2174.32	1666.67	3408.88	1655.63	4235.1	74*	124*	85-117	22	30
Benzo(b)fluoranthene	4589.16	1666.67	5390.6	1655.63	8045.47	48*	209*	79-121	40*	30
Chrysene	4899.09	1666.67	5924.32	1655.63	8159.9	62*	197*	80-121	32*	30
bis(2-Ethylhexyl)phthalate	< 850	1666.67	1802.95	1655.63	2251.7	108	136*	81-121	22	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 163000637002	Sample number(s): 8657728,8657732-8657737 UNSPK: 8657734									
Copper	430.51	21.37	368.93	21.19	559.33	-288 (2)	608 (2)	75-125	41*	20
Lead	693.55	12.82	495.55	12.71	423.7	-1544 (2)	-2123 (2)	75-125	16	20
Manganese	708.28	42.74	705.32	42.37	620.24	-7 (2)	-208 (2)	75-125	13	20
Nickel	88.86	42.74	108.38	42.37	100.47	46*	27*	75-125	8	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724121
Reported: 11/09/2016 10:21

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
Zinc	1302.25	42.74	1183.29	42.37	967.01	-278 (2)	-791 (2)	75-125	20	20
Batch number: 163000637002A	Sample number(s): 8657728,8657732-8657737,8657751 UNSPK: 8657734, P657734									
Antimony	7.25	1.03	15.8	1.02	16.34	834 (2)	894 (2)	75-125	3	20
Arsenic	134.27	1.71	129.44	1.69	177.93	-282 (2)	2576 (2)	75-125	32*	20
Cadmium	4.50	0.855	5.31	0.847	4.44	95 (2)	-7 (2)	75-125	18	20
Chromium	135.18	8.55	255.21	8.47	167.51	1404 (2)	382 (2)	75-125	41*	20
Lead	782.98	2.56	606.07	2.54	690.25	-6900 (2)	-3647 (2)	75-125	13	20
Batch number: 163000637003	Sample number(s): 8657738-8657748 UNSPK: P658616									
Cobalt	8.37	40.65	44.74	46.3	51.31	89	93	75-125	14	20
Copper	17.85	20.33	36.73	23.15	41.31	93	101	75-125	12	20
Lead	15.27	12.2	24.78	13.89	27.77	78	90	75-125	11	20
Manganese	228.02	40.65	414.71	46.3	349.39	459 (2)	262 (2)	75-125	17	20
Nickel	14.94	40.65	51.28	46.3	58.39	89	94	75-125	13	20
Zinc	41.03	40.65	79.63	46.3	91.91	95	110	75-125	14	20
Batch number: 163000637003A	Sample number(s): 8657740,8657744-8657748,8657750,8657752 UNSPK: P658616									
Antimony	0.0962	0.976	0.845	1.11	0.921	77	74*	75-125	9	20
Arsenic	4.76	1.63	6.82	1.85	6.96	127*	119	75-125	2	20
Beryllium	0.673	0.650	1.37	0.741	1.52	108	115	75-125	10	20
Cadmium	0.133	0.813	0.974	0.926	1.03	103	97	75-125	5	20
Chromium	24.83	8.13	34.02	9.26	38.85	113	151*	75-125	13	20
Lead	13.67	2.44	15.28	2.78	16.38	66 (2)	97 (2)	75-125	7	20
Batch number: 163000638002	Sample number(s): 8657728,8657735-8657737 UNSPK: 8657728									
Mercury	0.270	0.154	0.810	0.161	0.641	351*	230*	80-120	23*	20
Batch number: 163050638002	Sample number(s): 8657734,8657744-8657745,8657750-8657751 UNSPK: P660527									
Mercury	0.516	0.162	0.689	0.157	0.373	106	-90*	80-120	59*	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: 163000637002	Sample number(s): 8657728,8657732-8657737 BKG: 8657734			
Copper	430.51	291.67	38*	20
Lead	693.55	409.03	52*	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724121
Reported: 11/09/2016 10:21

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		
Manganese	708.28	709.79	0	20
Nickel	88.86	57.54	43*	20
Zinc	1302.25	1026.89	24*	20
Batch number: 163000637002A	Sample number(s): 8657728,8657732-8657737,8657751 BKG: 8657734, P657734			
Antimony	7.25	5.51	27*	20
Arsenic	134.27	124.05	8	20
Cadmium	4.50	3.72	19	20
Chromium	135.18	135.34	0	20
Lead	782.98	478.81	48*	20
Batch number: 163000637003	Sample number(s): 8657738-8657748 BKG: P658616			
Cobalt	8.37	8.20	2	20
Copper	17.85	16.93	5	20
Lead	15.27	11.57	28* (1)	20
Manganese	228.02	219.87	4	20
Nickel	14.94	14.15	5	20
Zinc	41.03	38.49	6	20
Batch number: 163000637003A	Sample number(s): 8657740,8657744-8657748,8657750,8657752 BKG: P658616			
Antimony	0.0962	0.122	24* (1)	20
Arsenic	4.76	3.71	25*	20
Beryllium	0.673	0.625	8 (1)	20
Cadmium	0.133	0.154	14 (1)	20
Chromium	24.83	22.65	9	20
Lead	13.67	11.73	15	20
Batch number: 163000638002	Sample number(s): 8657728,8657735-8657737 BKG: 8657728			
Mercury	0.270	0.678	86* (1)	20
Batch number: 163050638002	Sample number(s): 8657734,8657744-8657745,8657750-8657751 BKG: P660527			
Mercury	0.516	0.234	75* (1)	20
	%	%		
Batch number: 16300820006B	Sample number(s): 8657731-8657752 BKG: 8657734, P657734			
Moisture	7.80	7.49	4	5
Moisture	7.80	7.49	4	5
Moisture Duplicate	7.80	7.49	4	5
Batch number: 16301820007A	Sample number(s): 8657728-8657730 BKG: 8657728, P657728			
Moisture	10.56	9.76	8*	5
Moisture	10.56	9.76	8*	5
Moisture Duplicate	10.56	9.76	8*	5

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724121
Reported: 11/09/2016 10:21

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: A163001AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8657733	112	113	94	93
8657748	115	115	101	81
Blank	111	108	96	92
LCS	107	108	100	102
LCSD	105	105	100	101
MS	109	115	99	101
MSD	107	111	101	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260C Soil Master
Batch number: R163061AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8657749	86	86	69	55
Blank	78	82	73	72
LCS	94	97	87	89
LCSD	103	109	96	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 16303SLC026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8657728	71	73	72	79	78	79
8657729	71	72	71	74	77	77
8657730	74	75	76	81	82	82
8657733	79	78	89	76	78	80
8657740	90	89	96	82	85	88
Blank	86	91	109	86	91	94
LCS	85	88	101	83	88	89
MS	71	72	71	74	77	77
MSD	74	75	76	81	82	82
Limits:	58-122	57-126	28-141	54-123	63-117	49-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16306SLE026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8657734	77	79	79	79	81	78
Blank	85	92	115	91	97	101
LCS	99	100	114	92	98	98
MS	89	93	95	87	92	92
MSD	70	72	73	68	73	67

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724121
Reported: 11/09/2016 10:21

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:	58-122	57-126	28-141	54-123	63-117	49-129

Analysis Name: SVOA 8270D (microwave)
Batch number: 16307SLB026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8657731	80	82	82	88	89	88
Blank	99	104	122	96	102	105
LCS	101	102	116	94	95	99
MS	85	83	77	87	90	85
MSD	93	92	92	92	97	93
Limits:	58-122	57-126	28-141	54-123	63-117	49-129

Analysis Name: PCBs 8082A
Batch number: 163030015A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8657728	90	101
8657732	108	106
8657733	103	112
8657734	100	111
8657735	107	117
8657736	106	112
8657738	112	140
8657743	80	123
8657744	98	44*
8657745	98	158*
Blank	109	100
Limits:	53-140	45-143

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Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only
Acct. # 10302 Group # 1724121 Sample # 8657728-52

COC # 511450

Client Information		Matrix	
Client: Norfolk Southern	Acct. #:	☐ Tissue	
Project Name/#: Former Cohn Property	PWSID #:	☐ Sediment	☐ Ground / ☐ Surface / ☐ Potable / ☐ NPDES (Water)
Project Manager: Steven Aufdenkampe	P.O. #: SA14.127-001	☑ Soil	Other:
Sampler: Terrell Parker	Quote #:		
State where samples were collected: GA	For Compliance: Yes ☐ No ☐		

Analysis Requested (Preservation Codes: O for all columns)
1. PCB 1254 + 1260(?) by 8082
2. BaA, BbF, BaP + BEHP by 8270
3. Cu, Pb, Ni, Mn, Zn by 6010
4. Sb, Co, Cr by 6020
5. Hg 7471
6. Sb, As, Cd, Cr by 6020
7. methylcyclohexane + TCE 8260
8. BaP by 8270
9. Cu, Pb, Zn by 6010
10. Pb, Ni, Zn by 6010 / Sb by 6020

For Lab Use Only
FSC:
SCR#: 195100

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other - ice
m-meoh

Sample Identification	Date	Time	Grab	Composite	Soil	Water	Other	Total # of Containers	1	2	3	4	5	6	7	8	9	10	Remarks
SBO-12-0-2-101916	10/19/16	08:52	✓		✓			2	1 →	→	1 →	→	→						tms/msd on SVOCs only
Dup-02-101916	10/19/16	—	✓		✓			1		✓									
SBO-12-2-4-101916	10/19/16	09:18	✓		✓			1	✓		✓			✓					
SBO-13-2-4-101916	10/19/16	09:29	✓		✓			6	1		1 →	→			4	✓			metals, SVOC + PCB from 2 jars, 1x4oz jar
SBO-13-0-2-101916	10/19/16	09:54	✓		✓			1	✓		✓		✓	✓		✓			tms/msd on metals & PCBs
SBO-11-6-8-101916	10/19/16	10:20	✓		✓			1	✓								✓		
~~SBO-23-0-2-101916~~	~~10/19/16~~	~~14:03~~	✓		✓			1										✓	[initials] 10-19-16

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, judy.hartness@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]	10/19/16	18:30			
			Cathy Murphy [signature]	10/20/16	9:45

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 # 1724121 Sample # 8657728-52

COC # 511451

Client Information

Client: Norfolk Southern

Acct. #:

Project Name/#: Former Cotton Property

PWSID #:

Project Manager: STEVEN AUFDENKAMPE

P.O. #: SA14.127-0001

Sampler: Terrell Parker

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#: 195100

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other ICE

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Water	Potable	Ground	NPDES	Surface	Other	Total # of Containers	Cu, V, Zn by 6010	Mn, Be by 6020	BS&E-ethyl phthalate by 8270	Mn, V, Zn by 6010	Cd, Pb, Zn by 6010	PCB 1248, 1254 by 8082	Cd, Cu, Pb, Mn, Ni, Zn by 6010	Sb, As, Cd, Cr by 6020	Hg by 7471	PCB 1248, 1254 by 8082	Remarks
SBO-19-Ø-2-101816	10/18/16	13:34	✓		✓								1	✓										See attached Spreadsheet to confirm analyses
SBO-29-Ø-2-101816	10/18/16	15:30	✓		✓								1		✓	✓								
SBO-26-Ø-2-101816	10/18/16	15:36	✓		✓								1	✓										
SBO-25-Ø-2-101816	10/18/16	15:44	✓		✓								1				✓							
SBO-11-Ø-2-101816	10/18/16	18:15	✓		✓								1					✓	✓					
SBO-11-2-4-101816	10/18/16	18:24	✓		✓								1							✓	✓	✓	✓	
Dup-01-101816	10/18/16	—	✓		✓								1							✓	✓	✓	✓	

Ship 10/19/16

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: jennyellyse@mecfw.com, judy.hartnesse@mecfw.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
	10/19/16	18:30			
			Cathy Murphy		
			Cathy Murphy	10/20/16	9:45

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 # 724121 Sample # 865-7728-32

COC # 511452

Client Information

Client: Norfolk Southern

Acct. #:

Project Name/#: Former CoHN Property

PWSID #:

Project Manager: Steven AntedenKampe

P.O. #: SA14.127.001

Sampler: Terrell Parker

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#: 195100

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other — ICE

Remarks

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	Analysis Requested	Remarks
SBO-23-0-2-101916	10/19/16	14:03	✓		1		
SBO-23-2-4-101916	10/19/16	14:10	✓		1		
SBO-20-0-2-101916	10/19/16	16:30	✓		5		sample time 16:30
Dup-03-101916	10/19/16	—	✓		10		
SBO-15-0-2-101916	10/19/16	18:00	✓				
SBO-15-2-4-101916	10/19/16	18:02	✓				
SBO-27-0-2-101916	10/19/16	18:20	✓				

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.bartness@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
	10/19/16	18:30			
			Cathy Murphy	10/20/16	9:45

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 1.6 °C

G-1724121

Delineation Sampling and Analysis Plan - Soil
Former Cohn Property - Norfolk Southern
Columbus, Ga

Location ID	Sample ID	Metals ICP 6010	Metals ICP/MS 6020	Mercury 7471	PCBs 8082	SVOCs 8270	VOCs 8260	QC MA/MSD	QC DUP	Comments	4 oz Clear Glass	4 oz Amber Glass	8 oz Amber Glass (MS/SD)	Trip Blanks	VOC Soil Kit
SBO-11	SBO-11-0-2	Cu,Pb,Zn	--	--	1248 & 1254	--	--	--	--	Metals, PCBs	1	1			
SBO-11	SBO-11-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	1248 & 1254	--	--	--	Dup (Metals & PCBs)	Metals, PCBs	2	2			
SBO-11	SBO-11-6-8	Cu,Pb,Zn	--	--	1248 & 1254	--	--	--	--	Metals, PCBs	1	1			
SBO-12	SBO-12-0-2	Cu,Pb,Mn,Ni, Zn	Sb,Cd,Cr	Hg	1248 & 1254	BaA, BaP, BbF, BEHP, CRY	--	MS/MSD (SVOCs)	Dup (SVOCs)	Metals, PCBs, SVOCs	1	1	1		
SBO-12	SBO-12-2-4	Cu,Pb,Mn,Ni, Zn	Sb,As,Cd,Cr	--	1248 & 1254	--	--	--	--	Metals, PCBs	1	1			
SBO-13	SBO-13-0-2	Cu,Pb,Mn,Ni, Zn	Sb,As,Cd,Cr	Hg	1248 & 1254	BaP	--	MS/MSD (Metals + PCBs)	--	Metals, PCBs, SVOCs	1		1		
SBO-13	SBO-13-2-4	Cu,Pb,Mn,Ni, Zn	Sb,Cd,Cr	--	1248 & 1254	BaP	Methylcyclohexane & PCE	--	--	Metals, PCBs, SVOCs, VOCs	1	1		1	1
SBO-14	SBO-14-0-2	--	As, Pb	Hg	--	--	--	--	--	Metals	1				
SBO-14	SBO-14-2-4	--	Pb	Hg	--	--	--	--	--	Metals	1				
SBO-15	SBO-15-0-2	--	As, Pb	Hg	--	--	--	--	--	Metals	1				
SBO-15	SBO-15-2-4	--	Pb	Hg	--	--	--	--	--	Metals	1				
SBO-16	SBO-16-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,Cd,Cr	Hg	--	BaP, BbF	--	--	--	Metals, SVOCs	1	1			
SBO-17	SBO-17-0-2	Cu, Pb, Zn	--	--	--	--	--	--		Metals	1				
SBO-17	SBO-17-2-4	Cu	Sb	--	--	--	--	--		Metals	1				
SBO-18	SBO-18-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd,Cr	Hg	--	BaP, BbF	PCE & TCE	MS/MSD (VOCs)		Metals, SVOCs, VOCs	2	1		1	3
SBO-18	SBO-18-2-4	Cu	--	--	--	--	--	--		Metals	1				
SBO-19	SBO-19-0-2	Cu, Zn	--	--	--	--	--	--	--	Metals	1				
SBO-20	SBO-20-0-2	Pb, Mn	Cr	--	--	--	PCE & TCE	--	DUP (VOCs)	Metals, VOCs	1			1	2
SBO-20	SBO-20-2-4	Mn	Cr	--	--	--	--	--	--	Metals	1				
SBO-20	SBO-20-6-8	--	Cr	--	--	--	--	--	--	Metals	1				
SBO-21	SBO-21-0-2	Pb, Mn, Zn	Sb	--	--	--	--	--	--	Metals	1				
SBO-21	SBO-21-2-4	Mn	Sb	--	--	--	--	--	--	Metals	1				
SBO-22	SBO-22-0-2	Pb, Mn, Zn	Sb	--	--	BaP, BbF	--	--	--	Metals, SVOCs	1	1			
SBO-23	SBO-23-0-2	Pb, Ni, Zn	Sb	--	--	--	--	--	--	Metals	1				
SBO-23	SBO-23-2-4	Pb, Ni, Zn	Sb, Cd	--	--	--	--	--	--	Metals	1				
SBO-24	SBO-24-0-2	Pb, Mn	As	--	--	BaP	--	--	--	Metals, SVOCs	1	1			
SBO-25	SBO-25-0-2	Mn, Zn	--	--	--	--	--	--	--	Metals	1				
SBO-26	SBO-26-0-2	Cu, Zn	--	--	--	--	--	--	--	Metals	1				
SBO-27	SBO-27-0-2	--	As	--	--	--	--	--	--	Metals	1				
SBO-28	SBO-28-0-2	Zn	--	--	--	--	PCE & TCE	--	--	Metals, VOCs	1			1	1
SBO-29	SBO-29-0-2	Mn	Be	--	--	BEHP	--	--	--	Metals, SVOCs	1	1			
										Total Bottles =	33	12	2	4	7
										Extra Bottles =	5	5	1	0	5
										Grand Total Bottles=	38	17	3	4	12

Clear glass for metals + QC | *Amber glass for organics* | *8 oz Amber glass for organics + QC* | *No. of Trip Blanks based on No. of coolers w/VOCs*

Notes:

BaA = Benzo(a)anthracene
BaP = Benzo(a) pyrene
BbF = Benzo(b)fluoranthene
BEHP = bis(2-ethylhexyl)phthalate
CRY = Chrysene
Metals: As = Arsenic, Be = Beryllium, Cd = Cadmium, Co = Cobalt, Cr= Chromium, Cu = Copper, Hg = Mercury, Pb = Lead, Mn = Manganese, Ni = Nickel, Sb = Antimony, Zn = Zinc
PCE = Tetrachloroethene
TCE = Trichloroethene

= Collect QC
= Collect Field Dup
= Collect MS/MSD
= Collect both field Dup and MS/MSD

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Sample Administration Receipt Documentation Log

Doc Log ID: 165831

Group Number(s): 172412

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	10/20/2016 9:45
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:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Cathy Murphy (10960) at 15:14 on 10/20/2016

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

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Analysis Report

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: November 10, 2016

Project: Former Cohn Property/Columbus, GA

Submittal Date: 10/21/2016
Group Number: 1724130
PO Number: SA14.127-001
Release Number: 1440001625
State of Sample Origin: GA

Client Sample Description	Lancaster Labs (LL) #
SBO-18-0-2-102016 Grab Soil	8657855
SBO-18-0-2-102016 MS Grab Soil	8657856
SBO-18-0-2-102016 MSD Grab Soil	8657857
SBO-28-0-2-102016 Grab Soil	8657858
TB-01-102016 Sodium Bisulfate	8657859
SBO-24-0-2-102016 Grab Soil	8657860
SBO-14-0-2-102016 Grab Soil	8657861
SBO-14-2-4-102016 Grab Soil	8657862
SBO-18-2-4-102016 Grab Soil	8657863
SBO-17-0-2-102016 Grab Soil	8657864
SBO-17-2-4-102016 Grab Soil	8657865
SBO-16/21-0-2-102016 Grab Soil	8657866
SBO-16/21-2-4-102016 Grab Soil	8657867
SBO-22-0-2-102016 Grab Soil	8657868
Soil Drum-102016 Grab Soil	8657869
Soil Drum-102016 Grab Soil	8657870
Soil Drum-102016 Grab Soil	8657871

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 current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Amec Foster Wheeler	Attn: Rhonda Quinn
Electronic Copy To	Amec Foster Wheeler	Attn: Michelle Barker
Electronic Copy To	Amec Foster Wheeler	Attn: Judy Hartness

Respectfully Submitted,

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Former Cohn Property/Columbus, GA
LL Group #: 1724130

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

Sample #s: 8657870

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.
The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Batch #: 16303SLC026 (Sample number(s): 8657855, 8657860, 8657866, 8657868 UNSPK: P657728)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(b)fluoranthene, Benzo(a)pyrene

Batch #: 16313WAF026 (Sample number(s): 8657870 UNSPK: P647214)

The recovery(ies) for the following analyte(s) in the LCS were below the acceptance window: Pyridine

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Pyridine, 4-Methylphenol, Hexachloroethane, 2,4,6-Trichlorophenol

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8657870, Blank, LCS, MS, MSD

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

Batch #: 163030015A (Sample number(s): 8657869 UNSPK: P657728, P657734)

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) 8657869

SW-846 6010C, Metals

Batch #: 163000637002 (Sample number(s): 8657855, 8657858, 8657860, 8657863-8657868 UNSPK: P657734 BKG: P657734)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Copper, Lead, Manganese, Nickel, Zinc

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

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

Batch #: 163120636001 (Sample number(s): 8657870 UNSPK: P649328 BKG: P649328)

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

SW-846 6020A, Metals

Batch #: 163000637002A (Sample number(s): 8657855, 8657860-8657862, 8657865-8657868 UNSPK: P657734 BKG: P657734)

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

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

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Antimony, Lead

SW-846 7470A, Metals

Batch #: 163125713002 (Sample number(s): 8657870 UNSPK: P656334 BKG: P656334)

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

SW-846 7471B, Metals

Batch #: 163000638002 (Sample number(s): 8657855, 8657861-8657862, 8657866 UNSPK: P657728 BKG: P657728)

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

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

Sample Description: SBO-18-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657855
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 09:45 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN201

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	< 5	5	1	0.94
11995	Trichloroethene	79-01-6	< 5	5	1	0.94
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Benzo(a)pyrene	50-32-8	130	18	4	1
10726	Benzo(b)fluoranthene	205-99-2	290	18	4	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06953	Copper	7440-50-8	34.6	1.68	0.193	1
06955	Lead	7439-92-1	88.1	2.51	0.461	1
06958	Manganese	7439-96-5	377	0.838	0.0696	1
06961	Nickel	7440-02-0	5.87	1.68	0.251	1
06972	Zinc	7440-66-6	94.6	3.35	0.570	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.981	0.335	0.0823	2
06128	Cadmium	7440-43-9	0.256	0.168	0.0325	2
06131	Chromium	7440-47-3	17.4	0.670	0.0991	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.0990	0.0990	0.0099	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.

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	A163001AA	10/26/2016 20:31	Patrick T Herres	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629843104	10/20/2016 09:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629843104	10/20/2016 09:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201629843104	10/20/2016 09:45	Client Supplied	1

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

Sample Description: SBO-18-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657855
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 09:45 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

Norfolk Southern Railway Co.
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Atlanta GA 30309

CN201

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	16303SLC026	11/01/2016 08:25	Joseph M Gambler	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
06953	Copper	SW-846 6010C	1	163000637002	10/28/2016 22:55	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	163000637002	10/28/2016 22:55	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 22:55	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 22:55	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/28/2016 22:55	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:11	Scott P Cuff	2
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 15:11	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:34	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 10:42	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-18-0-2-102016 MS Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657856
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 09:45 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

Norfolk Southern Railway Co.
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Atlanta GA 30309

CN201

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	24	5	1	0.98
11995	Trichloroethene	79-01-6	23	5	1	0.98
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00118	Moisture	n.a.	5.3	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
11995	8260C Soil Master	SW-846 8260C	1	A163001AA	10/26/2016 20:59	Patrick T Herres	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629843104	10/20/2016 09:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629843104	10/20/2016 09:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201629843104	10/20/2016 09:45	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-18-0-2-102016 MSD Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657857
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 09:45 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

Norfolk Southern Railway Co.
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CN201

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	25	5	1	1
11995	Trichloroethene	79-01-6	23	5	1	1
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00118	Moisture	n.a.	5.3	0.50	0.50	1
00121	Moisture Duplicate	n.a.	5.3	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	A163001AA	10/26/2016 21:22	Patrick T Herres	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629843104	10/20/2016 09:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629843104	10/20/2016 09:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201629843104	10/20/2016 09:45	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-28-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657858
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 10:20 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN202

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	< 6	6	1	1.05
11995	Trichloroethene	79-01-6	< 6	6	1	1.05
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06972	Zinc	7440-66-6	57.5	3.88	0.660	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	13.4	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
11995	8260C Soil Master	SW-846 8260C	1	A163001AA	10/26/2016 23:37	Patrick T Herres	1.05
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629843104	10/20/2016 10:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629843104	10/20/2016 10:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201629843104	10/20/2016 10:20	Client Supplied	1
06972	Zinc	SW-846 6010C	1	163000637002	10/28/2016 23:02	Cindy M Gehman	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: TB-01-102016 Sodium Bisulfate
Former Cohn Property / Columbus, GA

LL Sample # G5 8657859
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 10:35 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN203

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
11995	Trichloroethene	79-01-6	< 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	A163001AA	10/26/2016 20:09	Patrick T Herres	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201629943115	10/20/2016 10:35	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201629943115	10/20/2016 10:35	Client Supplied	1

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

Sample Description: SBO-24-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657860
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 11:15 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

Norfolk Southern Railway Co.
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CN204

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	120	19	4	1
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	74.6	2.89	0.530	1
06958	Manganese	7439-96-5	609	0.964	0.0800	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	21.5	0.771	0.142	2
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
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16303SLC026	11/01/2016 08:50	Joseph M Gambler	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
06955	Lead	SW-846 6010C	1	163000637002	10/28/2016 23:06	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 23:06	Cindy M Gehman	1
06125	Arsenic	SW-846 6020A	1	163000637002A	11/01/2016 15:14	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-14-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657861
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 13:10 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN205

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**	
06125	Arsenic	7440-38-2	31.4	0.664	0.122	2
06135	Lead	7439-92-1	105	0.332	0.0242	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.0958	0.0958	0.0096	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
06125	Arsenic	SW-846 6020A	1	163000637002A	11/01/2016 15:16	Scott P Cuff	2
06135	Lead	SW-846 6020A	1	163000637002A	11/01/2016 15:16	Scott P Cuff	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 10:48	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-14-2-4-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657862
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 13:15 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN206

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**	
06135	Lead	7439-92-1	18.8	0.419	0.0306	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.0997	0.0997	0.010	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	7.4	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
06135	Lead	SW-846 6020A	1	163000637002A	11/01/2016 15:03	Scott P Cuff	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 10:50	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-18-2-4-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657863
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 16:04 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN207

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	28.6	1.67	0.192	1
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.

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	163000637002	10/28/2016 23:09	Cindy M Gehman	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-17-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657864
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 16:12 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN208

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	43.4	1.96	0.225	1
06955	Lead	7439-92-1	71.5	2.94	0.538	1
06972	Zinc	7440-66-6	41.6	3.91	0.665	1
Wet Chemistry	**SM 2540 G-1997**		%	%	%	
00111	Moisture	n.a.	7.1	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
06953	Copper	SW-846 6010C	1	163000637002	10/28/2016 23:13	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	163000637002	10/28/2016 23:13	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/28/2016 23:13	Cindy M Gehman	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-17-2-4-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657865
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 16:15 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN209

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	11.7	1.73	0.199	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	< 0.345	0.345	0.0848	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
06953	Copper	SW-846 6010C	1	163000637002	10/28/2016 23:16	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:18	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-16/21-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657866
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 16:22 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN210

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	26,000	360	70	20
10726	Benzo(b)fluoranthene	205-99-2	54,000	360	70	20
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	6.72	1.02	0.122	1
06953	Copper	7440-50-8	72.0	2.04	0.235	1
06955	Lead	7439-92-1	245	3.06	0.561	1
06958	Manganese	7439-96-5	519	1.02	0.0846	1
06961	Nickel	7440-02-0	12.4	2.04	0.306	1
06972	Zinc	7440-66-6	239	4.08	0.693	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	6.49	0.408	0.100	2
06128	Cadmium	7440-43-9	1.58	0.204	0.0396	2
06131	Chromium	7440-47-3	27.8	0.816	0.121	2
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	< 0.101	0.101	0.0101	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	5.7	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
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16303SLC026	11/01/2016 10:10	Joseph M Gambler	20
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
06952	Cobalt	SW-846 6010C	1	163000637002	10/28/2016 23:20	Cindy M Gehman	1
06953	Copper	SW-846 6010C	1	163000637002	10/28/2016 23:20	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	163000637002	10/28/2016 23:20	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 23:20	Cindy M Gehman	1
06961	Nickel	SW-846 6010C	1	163000637002	10/28/2016 23:20	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/28/2016 23:20	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:20	Scott P Cuff	2

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

Sample Description: SBO-16/21-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657866
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 16:22 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN210

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06128	Cadmium	SW-846 6020A	1	163000637002A	11/01/2016 15:20	Scott P Cuff	2
06131	Chromium	SW-846 6020A	1	163000637002A	11/07/2016 06:37	Choon Y Tian	2
00159	Mercury	SW-846 7471B	1	163000638002	10/28/2016 10:52	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	163000638002	10/27/2016 12:05	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-16/21-2-4-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657867
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 16:25 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN211

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	460	1.01	0.0841	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	0.657	0.405	0.0995	2
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.

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	163000637002	10/28/2016 23:24	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:21	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: SBO-22-0-2-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657868
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 16:52 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN212

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	990	370	73	20
10726	Benzo(b)fluoranthene	205-99-2	1,800	370	73	20
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	102	3.03	0.556	1
06958	Manganese	7439-96-5	562	1.01	0.0840	1
06972	Zinc	7440-66-6	136	4.05	0.688	1
	SW-846 6020A		**mg/kg**	**mg/kg**	**mg/kg**	
06124	Antimony	7440-36-0	1.00	0.405	0.0993	2
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
10726	SVOA 8270D (microwave)	SW-846 8270D	1	16303SLC026	11/01/2016 09:44	Joseph M Gambler	20
10813	BNA Soil Microwave APP IX	SW-846 3546	1	16303SLC026	10/31/2016 08:00	David S Schrum	1
06955	Lead	SW-846 6010C	1	163000637002	10/28/2016 23:28	Cindy M Gehman	1
06958	Manganese	SW-846 6010C	1	163000637002	10/28/2016 23:28	Cindy M Gehman	1
06972	Zinc	SW-846 6010C	1	163000637002	10/28/2016 23:28	Cindy M Gehman	1
06124	Antimony	SW-846 6020A	1	163000637002A	11/01/2016 15:23	Scott P Cuff	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	163000637002	10/28/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: Soil Drum-102016 Grab Soil
Former Cohn Property / Columbus, GA

LL Sample # SW 8657869
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 17:10 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN213

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	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	21,000	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
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.9	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
10885	PCBs 8082A	SW-846 8082A Feb 2007 Rev 1	1	163030015A	11/01/2016 14:19	Jessica L Miller	100
10497	PCB Microwave Soil Extraction	SW-846 3546	1	163030015A	10/31/2016 08:00	Jessica M Cook	1
00111	Moisture	SM 2540 G-1997	1	16300820007B	10/26/2016 22:02	Scott W Freisher	1

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

Sample Description: Soil Drum-102016 Grab Soil
TCLP NVE
Former Cohn Property / Columbus, GA

LL Sample # TL 8657870
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 17:10 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN214

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**mg/l**	**mg/l**	**mg/l**	
14252	1,4-Dichlorobenzene	106-46-7	< 5.0	5.0	2.5	1
14252	2,4-Dinitrotoluene	121-14-2	< 25	25	5.0	1
14252	Hexachlorobenzene	118-74-1	< 2.5	2.5	0.50	1
14252	Hexachlorobutadiene	87-68-3	< 5.0	5.0	2.5	1
14252	Hexachloroethane	67-72-1	< 25	25	5.0	1
14252	2-Methylphenol	95-48-7	< 5.0	5.0	2.5	1
14252	4-Methylphenol	106-44-5	< 5.0	5.0	2.5	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.					
14252	Nitrobenzene	98-95-3	< 5.0	5.0	2.5	1
14252	Pentachlorophenol	87-86-5	< 25	25	5.0	1
14252	Pyridine	110-86-1	< 25	25	10	1
14252	2,4,5-Trichlorophenol	95-95-4	< 5.0	5.0	2.5	1
14252	2,4,6-Trichlorophenol	88-06-2	< 5.0	5.0	2.5	1
	The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.					
	The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.					
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	< 0.0400	0.0400	0.0097	1
07046	Barium	7440-39-3	1.03	0.0100	0.0011	1
07049	Cadmium	7440-43-9	< 0.0100	0.0100	0.00049	1
07051	Chromium	7440-47-3	< 0.0300	0.0300	0.0018	1
07055	Lead	7439-92-1	0.122	0.0300	0.0062	1
07036	Selenium	7782-49-2	< 0.0400	0.0400	0.0097	1
07066	Silver	7440-22-4	< 0.0100	0.0100	0.0019	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.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

Sample Description: Soil Drum-102016 Grab Soil
TCLP NVE
Former Cohn Property / Columbus, GA

LL Sample # TL 8657870
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 17:10 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN214

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14252	SVOAs 8270D MINI	SW-846 8270D	1	16313WAF026	11/09/2016 15:55	Holly B Ziegler	1
04731	TCLP Leachate Extraction	SW-846 3510C	1	16313WAF026	11/08/2016 17:30	Kate E Lutte	1
07035	Arsenic	SW-846 6010C	1	163120636001	11/08/2016 06:37	Joanne M Gates	1
07046	Barium	SW-846 6010C	1	163120636001	11/08/2016 06:37	Joanne M Gates	1
07049	Cadmium	SW-846 6010C	1	163120636001	11/08/2016 06:37	Joanne M Gates	1
07051	Chromium	SW-846 6010C	1	163120636001	11/08/2016 06:37	Joanne M Gates	1
07055	Lead	SW-846 6010C	1	163120636001	11/08/2016 06:37	Joanne M Gates	1
07036	Selenium	SW-846 6010C	1	163120636001	11/08/2016 06:37	Joanne M Gates	1
07066	Silver	SW-846 6010C	1	163120636001	11/08/2016 06:37	Joanne M Gates	1
00259	Mercury	SW-846 7470A	1	163125713002	11/08/2016 09:10	Damary Valentin	1
10636	WW/TL SW846 (IV) ICP Dig (tot)	SW-846 3010A	1	163120636001	11/07/2016 15:55	JoElla L Rice	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	163125713002	11/07/2016 18:35	JoElla L Rice	1
00947	TCLP Non-volatile Extraction	SW-846 1311	1	16306-2486-947A	11/01/2016 13:58	Christina A Huber	n.a.

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

Sample Description: Soil Drum-102016 Grab Soil
TCLP ZHE
Former Cohn Property / Columbus, GA

LL Sample # TL 8657871
LL Group # 1724130
Account # 10302

Project Name: Former Cohn Property/Columbus, GA

Collected: 10/20/2016 17:10 by TP

Submitted: 10/21/2016 09:45
Reported: 11/10/2016 15:17

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

CN215

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		mg/l	mg/l	mg/l	
11997	Benzene	71-43-2	< 0.020	0.020	0.010	20
11997	2-Butanone	78-93-3	< 0.20	0.20	0.060	20
11997	Carbon Tetrachloride	56-23-5	< 0.020	0.020	0.010	20
11997	Chlorobenzene	108-90-7	< 0.020	0.020	0.010	20
11997	Chloroform	67-66-3	< 0.020	0.020	0.010	20
11997	1,2-Dichloroethane	107-06-2	< 0.020	0.020	0.010	20
11997	1,1-Dichloroethene	75-35-4	< 0.020	0.020	0.010	20
11997	Tetrachloroethene	127-18-4	< 0.020	0.020	0.010	20
11997	Trichloroethene	79-01-6	< 0.020	0.020	0.010	20
11997	Vinyl Chloride	75-01-4	< 0.020	0.020	0.010	20

Sample Comments

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

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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	L163101AA	11/05/2016 14:11	Matthew S Krause	20
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L163101AA	11/05/2016 14:11	Matthew S Krause	20
00946	TCLP Zero Headspace Extraction	SW-846 1311	1	16308-482-946	11/03/2016 14:05	Darin P Wagner	n.a.

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

Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

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
	mg/l	mg/l	mg/l
Batch number: L163101AA	Sample number(s): 8657871		
Benzene	< 0.001	0.001	0.0005
2-Butanone	< 0.010	0.010	0.003
Carbon Tetrachloride	< 0.001	0.001	0.0005
Chlorobenzene	< 0.001	0.001	0.0005
Chloroform	< 0.001	0.001	0.0005
1,2-Dichloroethane	< 0.001	0.001	0.0005
1,1-Dichloroethene	< 0.001	0.001	0.0005
Tetrachloroethene	< 0.001	0.001	0.0005
Trichloroethene	< 0.001	0.001	0.0005
Vinyl Chloride	< 0.001	0.001	0.0005
	ug/kg	ug/kg	ug/kg
Batch number: A163001AA	Sample number(s): 8657855-8657859		
Tetrachloroethene	< 5	5	1
Trichloroethene	< 5	5	1
	mg/l	mg/l	mg/l
Batch number: 16313WAF026	Sample number(s): 8657870		
1,4-Dichlorobenzene	< 0.005	0.005	0.003
2,4-Dinitrotoluene	< 0.025	0.025	0.005
Hexachlorobenzene	< 0.003	0.003	0.0005
Hexachlorobutadiene	< 0.005	0.005	0.003
Hexachloroethane	< 0.025	0.025	0.005
2-Methylphenol	< 0.005	0.005	0.003
4-Methylphenol	< 0.005	0.005	0.003
Nitrobenzene	< 0.005	0.005	0.003
Pentachlorophenol	< 0.025	0.025	0.005
Pyridine	< 0.025	0.025	0.010
2,4,5-Trichlorophenol	< 0.005	0.005	0.003
2,4,6-Trichlorophenol	< 0.005	0.005	0.003
	ug/kg	ug/kg	ug/kg
Batch number: 16303SLC026	Sample number(s): 8657855,8657860,8657866,8657868		
Benzo(a)pyrene	< 17	17	3
Benzo(b)fluoranthene	< 17	17	3
Batch number: 163030015A	Sample number(s): 8657869		
PCB-1016	< 17	17	3.6
PCB-1221	< 17	17	4.6
PCB-1232	< 17	17	8.0
PCB-1242	< 17	17	3.3

*- 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: 1724130
Reported: 11/10/2016 15:17

Method Blank (continued)

Analysis Name	Result	LOQ**	MDL
	ug/kg	ug/kg	ug/kg
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: 163000637002	Sample number(s): 8657855,8657858,8657860,8657863-8657868		
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: 163000637002A	Sample number(s): 8657855,8657860-8657862,8657865-8657868		
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
Lead	< 0.400	0.400	0.0292
Batch number: 163000638002	Sample number(s): 8657855,8657861-8657862,8657866		
Mercury	< 0.100	0.100	0.0100
	mg/l	mg/l	mg/l
Batch number: 163120636001	Sample number(s): 8657870		
Arsenic	< 0.0400	0.0400	0.0097
Barium	< 0.0100	0.0100	0.0011
Cadmium	< 0.0100	0.0100	0.00049
Chromium	< 0.0300	0.0300	0.0018
Lead	< 0.0300	0.0300	0.0062
Selenium	< 0.0400	0.0400	0.0097
Silver	< 0.0100	0.0100	0.0019
Batch number: 163125713002	Sample number(s): 8657870		
Mercury	< 0.00020	0.00020	0.000050

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/l	mg/l	mg/l	mg/l					
Batch number: L163101AA	Sample number(s): 8657871								
Benzene	0.0200	0.0183	0.0200	0.0185	92	93	78-120	1	30
2-Butanone	0.150	0.180	0.150	0.185	120	123	57-145	3	30
Carbon Tetrachloride	0.0200	0.0192	0.0200	0.0192	96	96	74-130	0	30
Chlorobenzene	0.0200	0.0185	0.0200	0.0182	92	91	80-120	1	30
Chloroform	0.0200	0.0187	0.0200	0.0189	94	94	80-120	1	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

LCS/LCSD (continued)

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/l	mg/l	mg/l	mg/l					
1,2-Dichloroethane	0.0200	0.0189	0.0200	0.0194	95	97	66-128	2	30
1,1-Dichloroethene	0.0200	0.0188	0.0200	0.0190	94	95	76-124	1	30
Tetrachloroethene	0.0200	0.0195	0.0200	0.0193	97	96	80-129	1	30
Trichloroethene	0.0200	0.0184	0.0200	0.0188	92	94	80-120	2	30
Vinyl Chloride	0.0200	0.0172	0.0200	0.0170	86	85	63-121	1	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: A163001AA	Sample number(s): 8657855-8657859								
Tetrachloroethene	20	18.24	20	17.32	91	87	78-120	5	30
Trichloroethene	20	18.6	20	17.99	93	90	80-120	3	30
	mg/l	mg/l	mg/l	mg/l					
Batch number: 16313WAF026	Sample number(s): 8657870								
1,4-Dichlorobenzene	0.250	0.191			76		70-130		
2,4-Dinitrotoluene	0.250	0.243			97		70-130		
Hexachlorobenzene	0.250	0.231			92		70-130		
Hexachlorobutadiene	0.250	0.194			77		70-130		
Hexachloroethane	0.250	0.188			75		70-130		
2-Methylphenol	0.250	0.246			99		70-130		
4-Methylphenol	0.250	0.198			79		70-130		
Nitrobenzene	0.250	0.225			90		70-130		
Pentachlorophenol	0.250	0.245			98		70-130		
Pyridine	0.250	0.128			51*		70-130		
2,4,5-Trichlorophenol	0.250	0.241			96		70-130		
2,4,6-Trichlorophenol	0.250	0.225			90		70-130		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16303SLC026	Sample number(s): 8657855,8657860,8657866,8657868								
Benzo(a)pyrene	1666.67	1527.7			92		85-117		
Benzo(b)fluoranthene	1666.67	1606.85			96		79-121		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 163030015A	Sample number(s): 8657869								
PCB-1016	168	172.47			103		76-121		
PCB-1260	167	181.79			109		79-130		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 163000637002	Sample number(s): 8657855,8657858,8657860,8657863-8657868								
Cobalt	50	50.94			102		80-120		
Copper	25	25.51			102		80-120		
Lead	15	15.12			101		80-120		
Manganese	50	51.33			103		80-120		
Nickel	50	51.75			104		80-120		
Zinc	50	50.23			100		80-120		
Batch number: 163000637002A	Sample number(s): 8657855,8657860-8657862,8657865-8657868								
Antimony	0.600	0.610			102		80-120		

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

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
Arsenic	1.00	1.08			108		80-120		
Cadmium	0.500	0.522			104		80-120		
Chromium	5.00	5.04			101		80-120		
Lead	1.50	1.55			103		80-120		
Batch number: 163000638002	Sample number(s): 8657855,8657861-8657862,8657866								
Mercury	0.100	0.0946			95		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 163120636001	Sample number(s): 8657870								
Arsenic	0.150	0.151			101		80-120		
Barium	2.00	1.99			100		80-120		
Cadmium	0.0500	0.0506			101		80-120		
Chromium	0.200	0.195			97		80-120		
Lead	0.150	0.149			99		80-120		
Selenium	0.150	0.155			103		80-120		
Silver	0.0500	0.0515			103		80-120		
Batch number: 163125713002	Sample number(s): 8657870								
Mercury	0.00100	0.000937			94		80-120		
	%	%	%	%					
Batch number: 16300820007B	Sample number(s): 8657855-8657858,8657860-8657869								
Moisture	89.5	89.4			100		99-101		
Moisture	89.5	89.4			100		99-101		
Moisture Duplicate	89.5	89.4			100		99-101		

MS/MSD

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
Batch number: L163101AA	Sample number(s): 8657871 UNSPK: 8657871									
Benzene	< 0.020	0.400	0.393	0.400	0.398	98	99	78-120	1	30
2-Butanone	< 0.20	3.00	2.66	3.00	2.71	89	90	57-145	2	30
Carbon Tetrachloride	< 0.020	0.400	0.421	0.400	0.442	105	111	74-130	5	30
Chlorobenzene	< 0.020	0.400	0.384	0.400	0.387	96	97	80-120	1	30
Chloroform	< 0.020	0.400	0.403	0.400	0.412	101	103	80-120	2	30
1,2-Dichloroethane	< 0.020	0.400	0.394	0.400	0.400	98	100	66-128	2	30
1,1-Dichloroethene	< 0.020	0.400	0.431	0.400	0.440	108	110	76-124	2	30
Tetrachloroethene	< 0.020	0.400	0.411	0.400	0.412	103	103	80-129	0	30
Trichloroethene	< 0.020	0.400	0.402	0.400	0.409	100	102	80-120	2	30
Vinyl Chloride	< 0.020	0.400	0.365	0.400	0.390	91	97	63-121	7	30

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/l									
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: A163001AA	Sample number(s): 8657855-8657859 UNSPK: 8657855									
Tetrachloroethene	2.42	19.53	22.43	19.96	23.37	102	105	78-120	4	30
Trichloroethene	< 5	19.53	22.21	19.96	21.71	114	109	80-120	2	30
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 16313WAF026	Sample number(s): 8657870 UNSPK: P647214									
1,4-Dichlorobenzene	< 0.005	0.250	0.189	0.250	0.180	75	72	70-130	5	30
2,4-Dinitrotoluene	< 0.025	0.250	0.250	0.250	0.241	100	97	70-130	4	30
Hexachlorobenzene	< 0.003	0.250	0.235	0.250	0.232	94	93	70-130	1	30
Hexachlorobutadiene	< 0.005	0.250	0.189	0.250	0.174	75	70	70-130	8	30
Hexachloroethane	< 0.025	0.250	0.179	0.250	0.168	72	67*	70-130	7	30
2-Methylphenol	< 0.005	0.250	0.210	0.250	0.215	84	86	70-130	3	30
4-Methylphenol	< 0.005	0.250	0.141	0.250	0.141	56*	56*	70-130	0	30
Nitrobenzene	0.00264	0.250	0.229	0.250	0.225	91	89	70-130	2	30
Pentachlorophenol	0.00533	0.250	0.254	0.250	0.241	99	94	70-130	5	30
Pyridine	< 0.025	0.250	0.119	0.250	0.128	48*	51*	70-130	7	30
2,4,5-Trichlorophenol	< 0.005	0.250	0.191	0.250	0.193	76	77	70-130	1	30
2,4,6-Trichlorophenol	< 0.005	0.250	0.167	0.250	0.161	67*	64*	70-130	4	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 16303SLC026	Sample number(s): 8657855,8657860,8657866,8657868 UNSPK: P657728									
Benzo(a)pyrene	2050.3	1649.08	3161.56	1644.74	3542.09	67*	91	85-117	11	30
Benzo(b)fluoranthene	4279.56	1649.08	5321.25	1644.74	5543.95	63*	77*	79-121	4	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 163030015A	Sample number(s): 8657869 UNSPK: P657734									
PCB-1016	< 840	168	< 850	168	< 850	0*	0*	76-121	0	50
PCB-1260	< 840	167	< 850	167	< 850	0*	0*	79-130	0	50
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 163000637002	Sample number(s): 8657855,8657858,8657860,8657863-8657868 UNSPK: P657734									
Cobalt	11.27	42.74	49.86	42.37	48.57	90	88	75-125	3	20
Copper	430.51	21.37	368.93	21.19	559.33	-288 (2)	608 (2)	75-125	41*	20
Lead	693.55	12.82	495.55	12.71	423.7	-1544 (2)	-2123 (2)	75-125	16	20
Manganese	708.28	42.74	705.32	42.37	620.24	-7 (2)	-208 (2)	75-125	13	20
Nickel	88.86	42.74	108.38	42.37	100.47	46*	27*	75-125	8	20
Zinc	1302.25	42.74	1183.29	42.37	967.01	-278 (2)	-791 (2)	75-125	20	20
Batch number: 163000637002A	Sample number(s): 8657855,8657860-8657862,8657865-8657868 UNSPK: P657734									

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

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
Antimony	7.25	1.03	15.8	1.02	16.34	834 (2)	894 (2)	75-125	3	20
Arsenic	134.27	1.71	129.44	1.69	177.93	-282 (2)	2576 (2)	75-125	32*	20
Cadmium	4.50	0.855	5.31	0.847	4.44	95 (2)	-7 (2)	75-125	18	20
Chromium	135.18	8.55	255.21	8.47	167.51	1404 (2)	382 (2)	75-125	41*	20
Lead	782.98	2.56	606.07	2.54	690.25	-6900 (2)	-3647 (2)	75-125	13	20
Batch number: 163000638002	Sample number(s): 8657855,8657861-8657862,8657866 UNSPK: P657728									
Mercury	0.270	0.154	0.810	0.161	0.641	351*	230*	80-120	23*	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 163120636001	Sample number(s): 8657870 UNSPK: P649328									
Arsenic	< 0.0400	5.00	4.76	5.00	4.74	95	95	75-125	0	20
Barium	0.948	100	94.57	100	94.42	94	93	75-125	0	20
Cadmium	< 0.0100	1.00	0.914	1.00	0.914	91	91	75-125	0	20
Chromium	< 0.0300	5.00	3.61	5.00	4.22	72*	84	75-125	15	20
Lead	0.00934	5.00	4.51	5.00	4.51	90	90	75-125	0	20
Selenium	< 0.0400	1.00	0.947	1.00	0.941	95	94	75-125	1	20
Silver	< 0.0100	5.00	3.39	5.00	3.62	68*	72*	75-125	7	20
Batch number: 163125713002	Sample number(s): 8657870 UNSPK: P656334									
Mercury	< 0.00020	0.0200	0.0130	0.0200	0.0127	65*	64*	80-120	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: 163000637002	Sample number(s): 8657855,8657858,8657860,8657863-8657868 BKG: P657734			
Cobalt	11.27	9.21	20	20
Copper	430.51	291.67	38*	20
Lead	693.55	409.03	52*	20
Manganese	708.28	709.79	0	20
Nickel	88.86	57.54	43*	20
Zinc	1302.25	1026.89	24*	20
Batch number: 163000637002A	Sample number(s): 8657855,8657860-8657862,8657865-8657868 BKG: P657734			
Antimony	7.25	5.51	27*	20
Arsenic	134.27	124.05	8	20
Cadmium	4.50	3.72	19	20

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

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		
Chromium	135.18	135.34	0	20
Lead	782.98	478.81	48*	20
Batch number: 163000638002	Sample number(s): 8657855,8657861-8657862,8657866 BKG: P657728			
Mercury	0.270	0.678	86* (1)	20
	mg/l	mg/l		
Batch number: 163120636001	Sample number(s): 8657870 BKG: P649328			
Arsenic	< 0.0400	< 0.0400	0 (1)	20
Barium	0.948	0.947	0	20
Cadmium	< 0.0100	< 0.0100	0 (1)	20
Chromium	< 0.0300	< 0.0300	0 (1)	20
Lead	0.00934	0.00770	19 (1)	20
Selenium	< 0.0400	< 0.0400	0 (1)	20
Silver	< 0.0100	< 0.0100	0 (1)	20
Batch number: 163125713002	Sample number(s): 8657870 BKG: P656334			
Mercury	< 0.00020	< 0.00020	0 (1)	20
	%	%		
Batch number: 16300820007B	Sample number(s): 8657855-8657858,8657860-8657869 BKG: 8657855, P657855			
Moisture	5.31	5.30	0	5
Moisture	5.31	5.30	0	5
Moisture Duplicate	5.31	5.30	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: A163001AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8657855	111	111	97	87
8657856	109	115	99	101
8657857	107	111	101	98
8657858	114	118	93	91
8657859	111	113	95	93
Blank	111	108	96	92
LCS	107	108	100	102
LCSD	105	105	100	101
MS	109	115	99	101
MSD	107	111	101	98

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

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.

Limits: 50-141 54-135 52-141 50-131

Analysis Name: VOCs- 5ml Water by 8260C
Batch number: L163101AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8657871	100	100	100	98
Blank	101	100	98	98
LCS	100	99	100	98
LCSD	103	100	99	99
MS	103	100	99	100
MSD	104	102	98	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: SVOA 8270D (microwave)
Batch number: 16303SLC026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8657855	89	87	94	79	82	87
8657860	81	80	83	78	80	81
8657866	72	72	84	81	81	83
8657868	76	79	81	83	82	85
Blank	86	91	109	86	91	94
LCS	85	88	101	83	88	89
MS	71	72	71	74	77	77
MSD	74	75	76	81	82	82
Limits:	58-122	57-126	28-141	54-123	63-117	49-129

Analysis Name: SVOAs 8270D MINI
Batch number: 16313WAF026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol
8657870	86	85	89	31*	41*	68*
Blank	78	75	91	34*	46*	78
LCS	85	84	91	47*	61*	93
MS	88	89	91	28*	28*	68*
MSD	86	83	86	34*	37*	60*
Limits:	70-130	70-130	70-130	70-130	70-130	70-130

Analysis Name: PCBs 8082A
Batch number: 163030015A

	Tetrachloro-m-xylene	Decachlorobiphenyl
8657869	109	222*
Blank	109	100
LCS	115	104
MS	107	117
MSD	106	112

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Quality Control Summary

Client Name: Norfolk Southern Railway Co. Group Number: 1724130
Reported: 11/10/2016 15:17

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

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Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only
Acct. # 10302 Group # 1724130 Sample # 8657855-71

COC # 511453

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former COHN Property	PWSID #:
Project Manager: Steven Aufdenkampe	P.O. #: SA14.127-001
Sampler: Terrell Parker	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Tissue ☐ Sediment ☐ Soil ☑ Water: Ground ☐ Surface ☐ Potable ☐ NPDES ☐ Other:

Analysis Requested / Preservation Codes (all columns: O)

1. PCE+TCE by 8260
2. Cu, Pb, Mo, Ni, Zn by 6020; Sb, Cd, Cr by 7471
3. Hg by 7471
4. BaP+BbF by 8270
5. Zn by 6010
6. Pb+Mn by 6010; As by 6020
7. BaP by 8270
8. As+Pb by 6020; Hg by 7471
9. Pb by 6020; Hg by 7471
10. Cu by 6010

Sample Identification	Date	Time	Grab	Composite	Soil	Water	Other	Total # of Containers	1	2	3	4	5	6	7	8	9	10	Remarks
SBO-18-0-2-102016	10-20-16	09:45	✓		✓			5	4	1 →	→	→							ms/msd on VOCs only; 1 x 16oz. jar/kit
SBO-28-0-2-102016	10-20-16	10:20	✓		✓			5	4				✓						
TB-01-102016	10-20-16	10:35	✓			✓		2	2										
SBO-24-0-2-102016	10-20-16	11:15	✓		✓			1						✓	✓				
SBO-14-0-2-102016	10-20-16	13:10	✓		✓			1								✓			
SBO-14-2-4-102016	10-20-16	13:15	✓		✓			1									✓		
SBO-18-2-4-102016	10-20-16	16:04	✓		✓			1										✓	

For Lab Use Only
FSC:
SCR#: 195100

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other — ice, etc.

Remarks
FedEx # 809584580875

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] To FedEx	10/20/16	18:34			
			Joe Huber [signature]	10-21-16	945

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 0.6 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 10302 Group # 1724130 Sample # 8657855-71

COC # 511454

Client Information

Client: Norfolk Southern	Acct. #:
Project Name/#: Former Cohn Property	PWSID #:
Project Manager: Steven Aufdenkampe	P.O. #: SA14.127-001
Sampler: Terrell Parker	Quote #:
State where samples were collected: GA	For Compliance: Yes ☐ No ☐

Matrix: Tissue ☐ Sediment ☐ Soil ☑ Water: Potable ☐ NPDES ☐ Ground ☐ Surface ☐ Other: ____

Analysis Requested / Preservation Codes (all columns: O)

1. Cu, Pb, Zn by 6010
2. Cu by 6010, Sb by 6020
3. Co, Cu, Cr, Mn, Ni, Zn by 6010, Sb by 6020
4. Hg by 7471
5. BaP, BbF by 8270
6. Mn by 6010, Sb by 6020
7. Pb, Mn, Zn by 6010, Sb by 6020
8. TCLP RCRA Metals
9. TCLP VOCs / TCLP SVOCs
10. PCBs by 8082

Sample Identification	Date	Time	Grab	Composite	Soil	Water	Other	Total # of Containers	1	2	3	4	5	6	7	8	9	10	Remarks
SBO-17-0-2-102016	10-20-16	16:12	✓		✓			1	✓										
SBO-17-2-4-102016	10-20-16	16:15	✓		✓			1		✓									
SBO-16/21-0-2-102016	10-20-16	16:22	✓		✓			1			✓	✓	✓						16 oz jar
SBO-16/21-2-4-102016	10-20-16	16:25	✓		✓			1						✓					
SBO-22-0-2-102016	10-20-16	16:52	✓		✓			1					✓		✓				
Soil Drum-102016	10-20-16	17:10	✓		✓			2								✓	✓✓	✓	2 x 16 oz jars

For Lab Use Only
FSC: ____
SCR#: 195100

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other ICE

Remarks
FedEx# 809589950875

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.martinez@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] To FedEx	10/20/16	18:34			
			[signature] Joe Huber	10-21-16	945

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 0.6 °C

G-1724130

Delineation Sampling and Analysis Plan - Soil
Former Cohn Property - Norfolk Southern
Columbus, Ga

Location ID	Sample ID	Metals ICP 6010	Metals ICPMS 6020	Mercury 7471	PCBs 8082	SVOCs 8270	VOCs 8260	QC MA/MSD	QC DUP	Comments	4 oz Clear Glass	4 oz Amber Glass	8 oz Amber Glass (MS/SD)	Trip Blanks	VOC Soil Kit
SBO-11	SBO-11-0-2	Cu,Pb,Zn	--	--	1248 & 1254	--	--	--	--	Metals, PCBs	1	1			
SBO-11	SBO-11-2-4	Co,Cu,Pb,Mn,Ni,Zn	Sb,As,Cd,Cr	Hg	1248 & 1254	--	--	--	Dup (Metals & PCBs)	Metals, PCBs	2	2			
SBO-11	SBO-11-6-8	Cu,Pb,Zn	--	--	1248 & 1254	--	--	--	--	Metals, PCBs	1	1			
SBO-12	SBO-12-0-2	Cu,Pb,Mn,Ni, Zn	Sb,Cd,Cr	Hg	1248 & 1254	BaA, BaP, BbF, BEHP, CRY	--	MS/MSD (SVOCs)	Dup (SVOCs)	Metals, PCBs, SVOCs	1	1	1		
SBO-12	SBO-12-2-4	Cu,Pb,Mn,Ni, Zn	Sb,As,Cd,Cr	--	1248 & 1254	--	--	--	--	Metals, PCBs	1	1			
SBO-13	SBO-13-0-2	Cu,Pb,Mn,Ni, Zn	Sb,As,Cd,Cr	Hg	1248 & 1254	BaP	--	MS/MSD (Metals + PCBs)	--	Metals, PCBs, SVOCs	1		1		
SBO-13	SBO-13-2-4	Cu,Pb,Mn,Ni, Zn	Sb,Cd,Cr	--	1248 & 1254	BaP	Methylcyclohexane & PCE	--	--	Metals, PCBs, SVOCs, VOCs	1	1		1	1
SBO-14	SBO-14-0-2	--	As, Pb	Hg	--	--	--	--	--	Metals	1				
SBO-14	SBO-14-2-4	--	Pb	Hg	--	--	--	--	--	Metals	1				
SBO-15	SBO-15-0-2	--	As, Pb	Hg	--	--	--	--	--	Metals	1				
SBO-15	SBO-15-2-4	--	Pb	Hg	--	--	--	--	--	Metals	1				
SBO-16	SBO-16-0-2	Co,Cu,Pb,Mn,Ni,Zn	Sb,Cd,Cr	Hg	--	BaP, BbF	--	--	--	Metals, SVOCs	1	1			
SBO-17	SBO-17-0-2	Cu, Pb, Zn	--	--	--	--	--	--		Metals	1				
SBO-17	SBO-17-2-4	Cu	Sb	--	--	--	--	--		Metals	1				
SBO-18	SBO-18-0-2	Cu,Pb,Mn,Ni,Zn	Sb,Cd,Cr	Hg	--	BaP, BbF	PCE & TCE	MS/MSD (VOCs)		Metals, SVOCs, VOCs	2	1		1	1
SBO-18	SBO-18-2-4	Cu	--	--	--	--	--	--		Metals	1				
SBO-19	SBO-19-0-2	Cu, Zn	--	--	--	--	--	--	--	Metals	1				
SBO-20	SBO-20-0-2	Pb, Mn	Cr	--	--	--	PCE & TCE	--	DUP (VOCs)	Metals, VOCs	1			1	2
SBO-20	SBO-20-2-4	Mn	Cr	--	--	--	--	--	--	Metals	1				
SBO-20	SBO-20-6-8	--	Cr	--	--	--	--	--	--	Metals	1				
SBO-21	SBO-21-0-2	Pb, Mn, Zn	Sb	--	--	--	--	--	--	Metals	1				
SBO-21	SBO-21-2-4	Mn	Sb	--	--	--	--	--	--	Metals	1				
SBO-22	SBO-22-0-2	Pb, Mn, Zn	Sb	--	--	BaP, BbF	--	--	--	Metals, SVOCs	1	1			
SBO-23	SBO-23-0-2	Pb, Ni, Zn	Sb	--	--	--	--	--	--	Metals	1				
SBO-23	SBO-23-2-4	Pb, Ni, Zn	Sb, Cd	--	--	--	--	--	--	Metals	1				
SBO-24	SBO-24-0-2	Pb, Mn	As	--	--	BaP	--	--	--	Metals, SVOCs	1	1			
SBO-25	SBO-25-0-2	Mn, Zn	--	--	--	--	--	--	--	Metals	1				
SBO-26	SBO-26-0-2	Cu, Zn	--	--	--	--	--	--	--	Metals	1				
SBO-27	SBO-27-0-2	--	As	--	--	--	--	--	--	Metals	1				
SBO-28	SBO-28-0-2	Zn	--	--	--	--	PCE & TCE	--	--	Metals, VOCs	1			1	1
SBO-29	SBO-29-0-2	Mn	Be	--	--	BEHP	--	--	--	Metals, SVOCs	1	1			
										Total Bottles =	33	12	2	4	7
										Extra Bottles =	5	5	1	0	5
										Grand Total Bottles=	38	17	3	4	12

Clear glass for metals + QC | *Amber glass for organics* | *8 oz Amber glass for organics + QC* | *No. of Trip Blanks based on No. of coolers w/VOCs*

Notes:
BaA = Benzo(a)anthracene
BaP = Benzo(a) pyrene
BbF = Benzo(b)fluoranthene
BEHP = bis(2-ethylhexyl)phthalate
CRY = Chrysene
Metals: As = Arsenic, Be = Beryllium, Cd = Cadmium, Co = Cobalt, Cr= Chromium, Cu = Copper, Hg = Mercury, Pb = Lead, Mn = Manganese, Ni = Nickel, Sb = Antimony, Zn = Zinc
PCE = Tetrachloroethene
TCE = Trichloroethene

= Collect QC
= Collect Field Dup
= Collect MS/MSD
= Collect both field Dup and MS/MSD

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Sample Administration Receipt Documentation Log

Doc Log ID: 165981

Group Number(s): 1724130

Client: Norfolk Southern

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	10/21/2016 9:45
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:	NaHSO4
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Joseph Huber (7831) at 12:57 on 10/21/2016

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	0.6	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:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< 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…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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.

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.

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F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< 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
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P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
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Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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This report shall not be reproduced except in full, without the written approval of the laboratory.

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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.

APPENDIX B

RESPONSE TO EPD JUNE 1, 2017 COMMENTS AND UPDATED RISK REDUCTION STANDARDS

RESPONSE TO GEORGIA ENVIRONMENTAL PROTECTION DIVISION COMMENTS DATED JUNE 1, 2017 ON VOLUNTARY REMEDIATION PROGRAM APPLICATION FOR FORMER E COHN PROPERTY (OWNER: NORFOLK SOUTHERN) – COLUMBUS, GEORGIA

11/30/2017

Comment # 1: ***EPD recommends COG Railroad reexamine its delineation and remediation goals for polychlorinated biphenyls (PCBs) to address the US Environmental Protection Agency (US EPA) Toxic Substances Control Act (TSCA) regulations in addition to the Hazardous Site Response Act (HSRA) and Voluntary Remediation Program (VRP) rules. Note that under TSCA regulations, all PCB concentrations are based on total PCBs rather than individual PCB Aroclors as referenced for VRP compliance by the table in Section 4.1 of the Application.***

Because PCBs are a contaminant of concern (COC) at the site, the final Remediation Plan may require submission and approval of any PCB-contaminated soil removal or reuse by the USEPA. COG Railroad should ensure the Remediation Plan addresses the applicable regulations implementing the USEPA's TSCA regulations pertaining to the use, decontamination and disposal of PCBs and PCB remediation waste (40 CFR 761.1 et. seq)

Response to Comment# 1: Per USEPA guidance (Polychlorinated Biphenyl (PCB) Site Revitalization Guidance Under the Toxic Substances Control Act (TSCA) (OPPT-2004-0123, November 2005) and per the future reuse scenario as a site that

- is covered with a cap,
- has institutional controls implemented, and
- is low occupancy,

The TSCA Cleanup standard would be >25 ppm to ≤ 100 ppm. This standard exceeds the Type 1/Type 3 soil RRS of 1.6 ppm. Therefore, the HSRA remedy of 1.6 ppm will also be appropriately protective under TSCA.

Comment # 2: ***COG Railroad has not delineated groundwater sufficiently to meet the requirements of O.C.G.A. §12-8-108.(1), requiring horizontal and vertical delineation of groundwater contamination to the default residential cleanup standards. However, the concentrations are sufficiently close to the delineation standard so as to only warrant continued monitoring at this time.***

Response to Comment# 2:

Given the low concentrations of COIs in the groundwater and there is no exposure pathway; in addition, to the fact that the site did not score for groundwater Norfolk Southern is of the opinion that the groundwater investigation is concluded and that the property should be managed under the VRP as a soil-only site. Groundwater samples will be collected and analyzed from the four exisiting site wells on an annual basis.

Comment # 3: ***The number and location of groundwater samples taken is insufficient to demonstrate a release exceeding a reportable quantity for groundwater does not exist at the property. Additional investigation of potential source areas (e.g., SS-06 and SS-07 for tetrachloroethene) is necessary. In addition, the area of highest metals concentration should be investigated for potential groundwater impacts.***

Response to Comment# 3:
As referenced by EPD in comment No. 2, the site did not score for groundwater and has low concentrations of COI, which comply with either Type 1 or 2 RRS; such that additional well installation and groundwater sampling beyond the four existing wells is not warranted at this time per 12-8-107(g)(2). In lieu of sampling, NS will install borings at the above locations and investigate soil at deeper depths for indications of leachable concentrations of applicable site COI.

Comment # 4: ***The notification concentration for thallium cannot be used as the delineation criteria since it exceeds the default residential cleanup standards.***

Response to Comment # 4: The Type 1 RRS of 2 mg/kg will be used for delineation. The thallium soil concentrations in surface and subsurface are less than 2 mg/kg and therefore is delineated.

Comment # 5: ***COG Railroad proposes additional investigation to close certain data gaps in the delineation of surface and subsurface soil constituents. EPD notes that most subsurface samples were taken in the southern parcels, yet there were a number of detections above the soil Risk Reduction Standards (RRSs) on the northern parcels. In addition, along the west side of the site, the number of detections above the soil RRSs indicates delineation is not sufficient, and the number of subsurface samples along the southern property boundary is insufficient for complete delineation. Thus, in addition to COG's proposals, EPD recommends additional delineation efforts for mercury, lead, copper, chromium, arsenic, PCBs, semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs), especially on the northern parcels (020 004 002, 002 004 001 and 019 034 002) and along the southern and western property boundaries.***

Response to Comment # 5:
Additional soil sampling was conducted in October 2016 to collect additional data for gaps in the soil delineation conducted previously. Additional surface and subsurface soils were collected on the north, east, south and west sides of the site including the northern parcels. The figures showing the delineation will be updated and included in the semi-annual report.

Comment # 6: ***According to Figure Number 5, Cross Section A-A ' and B-B', the extent of the soil with incorporated foreign material has not been fully delineated at the endpoints. Also, the Cross Section points toward a potentially larger area of soil with incorporated foreign material than indicated in the EM61 Response Contour Map. While boring logs for the monitoring wells are included as Appendix D to the Application, no logs are provided for the soil borings not associated with well installation, making delineation of the soil with incorporated foreign material difficult. EPD recommends COG Railroad amend the investigation already proposed in the Application to include further delineation of soils with incorporated foreign material.***

Response to Comment # 6:
We will re-evaluate the geophysical data and the boring logs to better define the extent of the soil with incorporated foreign material. Data from additional borings to further delineate soil COIs will also be used to better define the soil with incorporated foreign material.

Comment* # 7: *The topography across the site is not provided sufficient to determine surface drainage pathways. Additional information and/or investigation is needed along drainage pathways to determine if site contamination has migrated off-property and impacted sediments or possess a threat to surface water.

Response to Comment # 7:
No surface water body exists on or near the site. The closest surface water is the Chattahoochee River approximately 3600 feet to the west of the site and Weracoba Creek located approximately 2500 feet to the east of the site. There are numerous man-made structures and pavements located between the COG site and these surface water bodies that impedes surface runoff from the COG site toward these surface water bodies. The COG site is vegetated which reduces or prevents erosion of site soils. Storm drain manholes and curb inlets are present on 5th and 6th Streets, which bound the site on the south and north side, respectively. A topographic survey of the site has been completed and will be included in the semi-annual report.

COG has surveyed the area for the presence of drainage features on the property that would direct surface runoff toward the storm water manholes and curb inlets and has taken them in to consideration in the selection of sampling locations. We will review it again and if it appears there is surface runoff leaving the COG site, an attempt will be made to collect a sample to investigate if the surface runoff is carrying site contamination off-property.

Comment* # 8: *Based upon the high chromium concentrations detected at SB-03, 0-2 ft bgs and 2-4 ft bgs, speciation of chromium should be conducted for sample locations that exhibit high concentrations of chromium. Further delineation of hexavalent chromium may be necessary, if detected.

Response to Comment # 8:
A few soil locations with elevated chromium concentrations will be re-sampled and analyzed for hexavalent chromium to evaluate if it is present. The locations with the highest chromium concentrations proposed for sampling are: SBO-03 (0-2 ft and 2-4 ft), SBO-06 (0-2 ft and 2-4 ft), and SS-14 (0-2 ft)

Comment* # 9: *Review of the RRS calculations reveals the following items of note:
Comment* # 9a: *Revision of HSRA Appendix III, Table 1 Values:

- ***Due to the fact that EPA's updated toxicity values are not represented in the current groundwater criteria provided in Appendix III, Table 1 , the Director has determined that in lieu of setting the Type I /3 groundwater RRS at the Appendix III, Table 1 value for regulated substances impacted by USEPA toxicity updates, the site- specific Type 2 groundwater RRS should be assumed as the overall groundwater standard using the most current toxicity data. Therefore, please present site-specific Type 2 and Type 4 groundwater RRSs as the overall residential and non-residential RRS, respectively for the following constituents: acenaphthene, dibenzo(a,h)anthracene, fluorene, fluoranthene, naphthalene, and pyrene. This also applies to the target groundwater leachate concentration for all leachability evaluations. EPD will formally address the discrepancy between the Table 1 values and the methodology in its upcoming rulemaking process, but in the interim will rely on calculations based on the methodology contained in Appendix III of 391-3-19-.07.***

Response to Comment # 9a
This recommendation has been incorporated.

Comment* # 9b:** ***Type 1 through 4 Groundwater RRS, Table F-3:
- ***The RfDi is incorrect for trichlorofluoromethane. According to the current RSL table this substance does not contain an RfDi; however, a value was listed in the table. Please revise by removing the listed RfDi value from the table. Please note this may impact the final Type 2 and 4 groundwater RRS.***

Response to Comment # 9b
Response: The older toxicity value has been deleted.

Comment* # 9c:** ***Type 1 and Type 3 Soil RRS, Table F-4
The majority of the Type 1 and 3 soil risk reduction standards (RRS) presented in the table for the regulated substances are correct; however, there were a few errors when deriving the soil RRSs which may impact the final Type 1 and 3 soil RRSs.

- ***Acenaphthylene, benzo(g,h,i)perylene, phenanthrene do not have any toxicity and chemical specific information in the current EPA Regional Screening Table (RSL). According to the Georgia Rules of Hazardous Site Response[1] (Rules), if the Type 1 and Type 3 soil RRS for a constituent is not calculable then the greater of the (i) background value and (ii) detection limit should be used. Please revise all associated tables accordingly in the report.***

Response to Comment # 9c

COG Rail disagrees with this comment. Per 391-3-19-.07(6)(c)1 for Type 1 soil and 391-3-19-.07(8)(d)1 for Type 3 soil:

Criteria for soil. Concentrations at any point above the uppermost groundwater zone in soil that has been affected by a release shall not exceed the concentrations given in Table 2 of Appendix III or, for those substances not listed, the least of the concentrations from Items 1 through 3 below:

1. Concentrations which will not cause contamination of groundwater at levels which exceed Type 1 groundwater criteria, determined as the highest of the soil concentrations in Items (i)-(iii) below:
   (i) Soil concentrations in Appendix I, excluding any values given in square brackets;
   (ii) Multiplication of the Type 1 groundwater concentration criteria by a factor of 100;
   (iii) Demonstration through use of the Toxicity Characteristic Leaching Procedure, SW-846 Method 1311, or other method approved by the Director that a concentration in soil will not generate leachate concentrations that exceed Type 1 groundwater concentration criteria.

Acenaphthylene, benzo(ghi)pyrene, and phenanthrene all have values listed in Appendix I (criteria i). In addition, the GW detection limit x 100 can be used as criteria ii. Also, criteria iii can be calculated using the GW detection limit as the leachate concentration in the Soil Screening Guidance leaching equation. Thus, the # 1 criteria have been calculated for these compounds and are listed in Table F-4.

- **For tetrachloroethene and barium, the Type 3 soil RAGS, Part B Equation 7 is incorrect and should be 1.1E-02 and 4.09E-05, respectively. Please revise.**

Response to Comment # 9c (continued)
COG Rail disagrees with this comment. Per the calculations for non-carcinogenic risk for Type 3, the RRS would be 150 mg/kg for PCE and 360,000 mg/kg for barium. See response to the previous comment. The Type 3 RRS for barium is based on Table 2 of Appendix III (1000 mg/kg). The Type 3 for tetrachloroethene is based on the GW standard x 100 (0.5 mg/kg). No revision is necessary.

- ***The Type 1 groundwater RRS values listed in the table for butyl benzyl phthalate and chrysene are incorrect. Pursuant to Appendix III, Table 1 of the Rules, the correct values should be 1E-01 and 2E-4, respectively. Please revise.***

Response to Comment # 9c (continued)
COG Rail agrees that the Type 1 RRS for butyl benzyl phthalate should be 0.1 mg/L and this value is revised. The Type 1 RRS for chrysene is listed at 0.01 mg/L, which is the reporting limit, because the reporting limit is higher than the value listed on Table 1, Appendix III and is used per footnote (a) on Table 1.

- ***For beryllium, cadmium (diet) and nickel soluble salts the Type 1 and 3 soil RAGS, Part B, Equation 6 was incorrect due to accounting for the inhalation pathway for non-volatile constituents. When calculating the soil RRS for non-volatile substances, only the results from the oral pathway should be considered. Please revise all associated tables.***

Response to Comment # 9c (continued)
The inhalation pathway is included for fugitive dust exposures (i.e., the particulate emission factor) and is consistent with RAGS B equation 6. No revision is necessary.

- ***For chromium (total), the RAGS, Part B, Equations 6 and 7 should be labeled no data (ND) since no toxicity data is available in the current RSL table. Furthermore, it appears the toxicity data for hexavalent chromium was used to derived the Type 3 soil RRS.***

Response to Comment # 9c (continued)
Revision was made. This increases the Type 3 soil RRS for total chromium to the notification concentration of 1200 mg/kg.

- ***The substances methylcyclohexane, cobalt, manganese and vanadium are not regulated under the Rules and therefore the RRS do not apply. Please remove these substances from all associated tables.***

Response to Comment # 9c (continued)
Methylcyclohexane, cobalt, manganese and vanadium will be removed from delineation and RRS tables and figures.

Comment* # 9d:** ***Table F-5 Soil to Groundwater Leachability:

- ***Based upon the comments provided in Sub-item c. above, this table will need revision. Please revise.***

Response to Comment # 9d

Type 2 and Type 4 RRS for leaching revised for acenaphthene, dibenzo(a,h)anthracene, fluorene, fluoranthene, naphthalene, and pyrene.

***Comment* # 9e:** **Type 2 Soil RRS, Table F-6:**

- ***The Type 2 RAGS, Part B, Equation 7 (child) for lead is incorrect and should be designated as ND since the substance does not have any toxicity and chemical specific information listed in the EPA RSL table. Please revise.***

Response to Comment # 9e

The values listed are not calculated using Equation 7, but were calculated using the IEUBK Model. No revision is required.

***Comment* # 9e:**

- ***The evaluation of lead using the IEUBK model was not considered when calculating the Type 2 soil RRSs. Pursuant to Section 391-3-19-.07(c)(4) of the Rules, the Type 2 soil RRS for lead should be based on the lesser of the leachability and IEUBK model results. While it is unlikely the IEUBK model results will affect the final outcome of the Type 2 soil RRS, please provide the input and output worksheets for review.***

Response to Comment # 9e (continued)

The IEUBK Model result was compared to the leaching result and the lower of the two was used for the Type 2 RRS for lead. No revision is required.

***Comment* # 9f: Type 4 Soil RRS, Table F-7:**

- ***In order to generate a final Type 4 soil RRS for lead, the lower of the RAGS, Part B Equations 6 and 7, groundwater protection value, and for lead, the GALM, Fate and Transport Mode should be considered. However, it appears the GALM was not taken into consideration when deriving the Type 4 soil RRS. Please revise and provide the necessary input and output worksheets.***

Response to Comment # 9F

The GALM was used to calculate a value of 1,300 mg/kg. However, the leaching based value of 14 mg/kg is lower and was selected as the Type 4 soil RRS for lead.

Comment* # 10:** ***Although munitions debris was found at the site, COG Railroad believes multiple lines of evidence do not indicate that unexploded ordinances (UXOs) are present on the site. EPD concurs with the multiple lines of evidence approach; however, EPD does not concur that sufficient investigation has been done to justify the conclusion. Additional investigation at Test Pits F and H should be conducted to further assess the potential for UXOs. In addition, a formal risk analysis by a certified UXO expert should be performed that may be presented in the final compliance status report (CSR) for the site. Additionally, since the site was listed on the Hazardous Site Inventory due to a threat to human health and the

environment (due to the potential presence of UXOs), the final CSR certification will require language indicating that site does not pose such a threat.

Response to Comment # 10
Further investigation for UXOs at Test Pits F and H will be conducted. An UXO expert will be tasked with evaluating the threat to human health and the environmental (if any) from UXOs purported to be at the site. The evaluation will be included in the CSR.

Comment* # 11: *The four tax parcels referenced in the Application are part of larger property tracts owned by the railroad, and do not match the shapes of the parcels identified on county tax maps. Upon completion of further delineation investigation, and procurement of appropriate deed records, COG Railroad should work with Muscogee County to revise the tax maps such that parcel(s) included in the County's Records, the VRP Program and the Uniform Environmental Covenant (UEC) are one and the same, and are wholly bound by the UEC are currently un-occupied, there is potential for use of these or new enclosed structures(s) on the property. The UEC should, therefore, require an assessment of vapor intrusion from VOCs in sub-slab soil gas and/or indoor air prior to occupancy of any enclosed structure on site.

Response to Comment # 11
COG Rail is working to resolve how the four identified "Site" parcels are referenced in the existing deed records and to make the records consistent with the Muscogee County tax records. The property records will be made consistent for incorporation into the UEC.

Comment #12: The property currently contains two abandoned one-story structures. While the structures are currently un-occupied, there is potential for use of these or new enclosed structures(s) on the property. The UEC should therefore, require an assessment of vapor intrusion from VOCs in the sub-slab soil gas and/or indoor air prior to occupancy of any enclosed structure on site.

Response to Comment # 12
The site structures are slated to be razed during cap construction. Should COG decide to make the site available for future development, the appropriate restrictions will be considered for the covenant.

Comment* #13: *When designing the engineered cap proposed in the remediation plan, ensure the cap is designed to:

a. Minimize exposure of subsurface contaminants at the surface of the site.
b. Prevent vertical infiltration of water into contaminated soils that could create contaminated leachate.
c. Create a land surface that can support vegetation and/or be used for other purposes (i.e., a parking lot for storage of automobiles to be shipped by rail);
d. Contain waste while treatment, if necessary, is being applied.
e. While not anticipated at the site, control gas emissions, if necessary, from underlying waste.
f. If constructed of concrete, follow the recommendations of American Concrete Institute ACI 330R-08 Guide for the Design and Construction of Concrete Parking Lots. Alternatively, if constructed of asphalt, EPD recommends an Asphalt Institute or similarly qualified engineer

be contacted for assistance to ensure the asphalt cap is adequate to function as an impermeable barrier and contain any contaminated soils.
g. The engineer's specifications on the construction of the cap, along with a detailed Operations and Maintenance (O&M) Program, and As-Built drawings for the cap should be provided to the EPD for approval.
h. The Maintenance and Monitoring Plan (MMP) developed under the UEC for the site should, at a minimum, include inspections of the cap by a structural engineer every 3 years, if inspected by trained site operating personnel on a routine basis.

Response to Comment # 13
EPD comments regarding Cap design criteria are noted and will be considered during design.

Comment # 14: The groundwater sampling logs indicate that two wells MW-01 and MW-02 were considered stable and sampled with excessive turbidity readings (>10 NTU). Should turbidity continue to exceed I0 NTU in future sampling events, continue purging of the well until the turbidity is below 10 NTU. If the well is not showing signs that a turbidity level of less than 10 NTU can be achieved, re-development of the well should be considered.

Additionally, according to the sampling logs, MW-02 was sampled using a field filter, but MW-01 was not. As both MW-01 and MW-02 had high turbidity readings, please explain why MW-02 received a field filter while MW-01 did not. In future reports please document the use of field filters and a brief explanation as to why a field filter was necessary for sample collection in the narrative.

Response to Comment # 14
COG will evaluate re-development of the wells to resolve the turbidity. The wells will be resampled after the turbidity has decreased. If filtered samples are collected in the future, the rationale for filtering will be including in the sampling report. The total and dissolved metals concentrations in MW-02 were very similar.

Comment # 15: It is unclear in Figure Nos. 8 through 21, what the extent of soil contamination is being compared against. If the purpose is to show delineation, then the delineation value should be stated clearly [e.g., Type 1 RRS (value), Background (value)]. In addition, a line demarcating the area delineated should be drawn through the sample locations used for delineation.

Response to Comment # 15:
Figures 8 through 21 will be revised to indicate the delineation criteria and value. The extent of delineation will also be marked on the figures. These figures will be included in the semi-annual report.

Comment # 16: EPD concurs with the proposed calculated background threshold values provided in Table 5.

Response to Comment # 16: Comment noted.

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	9.5E-01	2.0E+01	2.0E+01	5.3E+00
1,1-Dichloroethane	4.0E+02	1.1E+00	4.0E+02	4.0E+02	1.1E+00
2-Butanone	2.0E+02	4.9E-01	2.0E+02	2.0E+02	2.8E+00
Acetone	4.0E+02	1.9E+00	4.0E+02	4.0E+02	1.1E+01
Benzene	5.0E-01	2.9E-03	5.0E-01	5.0E-01	5.1E-03
Chloroethane (Ethyl chloride)	1.7E-01	1.7E+00	1.7E-01	1.7E-01	9.6E+00
cis-1,2-Dichloroethene	7.0E+00	2.1E-02	7.0E+00	7.0E+00	6.9E-02
Cyclohexane	2.0E+01	3.6E+00	2.0E+01	2.0E+01	2.0E+01
Ethylbenzene	7.0E+01	7.8E-01	7.0E+01	7.0E+01	7.8E-01
Methylene Chloride	5.0E-01	2.3E-02	5.0E-01	5.0E-01	1.3E-01
Styrene	1.4E+01	5.8E-01	1.4E+01	1.4E+01	3.3E+00
Tetrachloroethene	5.0E-01	9.0E-03	5.0E-01	5.0E-01	5.1E-02
Toluene	1.0E+02	7.2E-01	1.0E+02	1.0E+02	4.1E+00
Trichloroethene	5.0E-01	1.8E-03	5.0E-01	5.0E-01	2.1E-03
Trichlorofluoromethane	2.0E+02	3.8E+00	2.0E+02	2.0E+02	2.2E+01
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	2.8E+00
3-Methylphenol	3.8E+00	8.2E-01	3.8E+00	3.8E+00	4.7E+00
4-Chloroaniline	1.0E+01	4.3E-02	1.0E+01	1.0E+01	4.3E-02
4-Methylphenol	3.8E+00	1.6E+00	3.8E+00	3.8E+00	9.4E+00
Acenaphthene	3.0E+02	9.6E+00	3.0E+02	3.0E+02	7.0E+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	3.5E+00
Anthracene	5.0E+02	2.0E+02	5.0E+02	5.0E+02	1.2E+03
Benzo(a)anthracene	5.0E+00	3.8E-01	5.0E+00	5.0E+00	5.3E-01
Benzo(a)pyrene	1.6E+00	9.1E-01	1.6E+00	1.6E+00	3.8E+00
Benzo(b)fluoranthene	5.0E+00	9.3E+00	5.0E+00	5.0E+00	3.9E+01
Benzo(ghi)perylene	5.0E+02	1.9E+00	5.0E+02	5.0E+02	1.9E+00
Benzo(k)fluoranthene	5.0E+00	9.1E+01	5.0E+00	5.0E+00	3.8E+02
Bis(2-ethylhexyl)phthalate	5.0E+01	1.3E+01	5.0E+01	5.0E+01	5.6E+01
Butyl benzyl phthalate	5.0E+01	5.9E+00	5.0E+01	5.0E+01	2.5E+01
Chrysene	5.0E+00	2.8E+02	5.0E+00	5.0E+00	1.2E+03
Dibenzo(a,h)anthracene	5.0E+00	3.0E+00	5.0E+00	5.0E+00	1.3E+01
Diethyl phthalate	5.0E+02	6.6E+00	5.0E+02	5.0E+02	3.8E+01
Dimethyl phthalate	4.0E+04	1.2E+02	4.0E+04	4.0E+04	1.2E+02
Fluoranthene	5.0E+02	7.0E+01	5.0E+02	5.0E+02	5.2E+02
Fluorene	3.6E+02	1.2E+01	3.6E+02	3.6E+02	9.0E+01
Indeno(1,2,3-cd)pyrene	5.0E+00	3.1E+01	5.0E+00	5.0E+00	1.3E+02
Naphthalene	1.0E+02	5.9E-03	1.0E+02	1.0E+02	2.9E-02

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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
Phenanthrene	1.1E+02	1.9E-01	1.1E+02	1.1E+02	1.9E-01
Phenol	4.0E+02	3.5E+00	4.0E+02	4.0E+02	2.0E+01
Pyrene	5.0E+02	5.0E+01	5.0E+02	5.0E+02	3.8E+02
Metals					
Antimony	4.0E+00	3.6E-01	1.0E+01	1.0E+01	2.1E+00
Arsenic	2.0E+01	2.9E-01	3.8E+01	4.1E+01	2.9E-01
Barium	1.0E+03	1.7E+02	1.0E+03	1.0E+03	1.0E+03
Beryllium	2.0E+00	3.2E+01	3.0E+00	3.0E+00	1.8E+02
Cadmium (Diet)	2.0E+00	7.5E-01	3.9E+01	3.9E+01	4.4E+00
Chromium, Total	1.0E+02	1.9E+00	1.2E+03	1.2E+03	1.9E+00
Chromium III (Insoluble Salts)	5.0E-01	1.0E+05	5.0E-01	5.0E-01	1.0E+05
Chromium VI	5.0E-02	3.0E-02	5.0E-02	5.0E-02	1.3E-01
Copper	1.0E+02	4.6E+01	1.5E+03	1.5E+03	1.6E+02
Lead	7.5E+01	1.4E+01	4.0E+02	4.0E+02	1.4E+01
Mercury (Mercuric Chloride and Inorganic Salts)	5.0E-01	3.1E-01	1.7E+01	1.7E+01	1.8E+00
Nickel Soluble Salts	5.0E+01	2.6E+01	4.2E+02	4.2E+02	1.5E+02
Selenium	2.0E+00	5.2E-01	3.6E+01	3.6E+01	3.0E+00
Silver	2.0E+00	8.5E-01	1.0E+01	1.0E+01	5.0E+00
Thallium (soluble salts)	2.0E+00	1.4E-01	1.0E+01	1.0E+01	1.4E-01
Zinc	1.0E+02	3.7E+02	2.8E+03	2.8E+03	2.2E+03
PCBs					
Aroclor-1242	1.6E+00	1.6E-01	1.6E+00	1.6E+00	2.6E-01
Aroclor-1248	1.6E+00	1.5E-01	1.6E+00	1.6E+00	2.5E-01
Aroclor-1254	1.6E+00	2.6E-01	1.6E+00	1.6E+00	4.3E-01
Aroclor-1260	1.6E+00	7.0E-01	1.6E+00	1.6E+00	1.1E+00
Nitroaromatics					
4-Nitrotoluene	1.1E+00	4.5E-02	1.1E+00	1.1E+00	1.9E-01

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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
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	ND	ND	ND		IRIS
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	1.0E-01	2.1E-01	B2	IRIS x TEF
Benzo(a)pyrene	3.0E-04	5.7E-07	1.0E+00	2.1E+00	Carc to Humans	IRIS
Benzo(b)fluoranthene	ND	ND	1.0E-01	2.1E-01	B2	IRIS x TEF
Benzo(ghi)perylene	ND	ND	ND	ND	D	IRIS
Benzo(k)fluoranthene	ND	ND	1.0E-02	2.1E-02	B2	IRIS x TEF
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	1.0E-03	2.1E-03	B2	IRIS x TEF
Dibenzo(a,h)anthracene	ND	ND	1.0E+00	2.1E+00	B2	IRIS x TEF
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	1.0E-01	2.1E-01	B2	IRIS x TEF
Naphthalene	2.0E-02	8.6E-04	ND	ND*	C	IRIS
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	ND	ND	ND	ND	ND	NA
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
Copper	4.0E-02	ND	ND	ND	D	HEAST
Lead	ND	ND	ND	ND	B2	NCEA
Mercury (mercuric chloride and inorganic Salts)	3.0E-04	8.6E-05	ND	ND	C	IRIS, RSL
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

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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
Thallium (soluble salts)	1.0E-05	ND	ND	ND		PPRTV
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

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
* Because of uncertainty associated with inhalation unit risk published by Cal EPA, only the non-carcinogenic toxicity values are used.

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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		1.3E+01	ND	2.7E+00	ND	2.7E+00	2.7E+00	1.5E+01	ND	1.5E+01	1.5E+01
1,1-Dichloroethane	2.0E-01	ND	5.7E-03	5.6E-03	PPRTV, CALEPA	v	4.0E+00		6.7E+00	3.5E-02	4.0E+00	3.9E-02	3.5E-02	4.0E+00	2.3E+01	5.3E-02	5.3E-02	4.0E+00
2-Butanone	6.0E-01	1.4E+00	ND	ND	IRIS	v	2.0E+00		8.8E+00	ND	2.3E+00	ND	2.3E+00	2.3E+00	1.3E+01	ND	1.3E+01	1.3E+01
Acetone	9.0E-01	8.9E+00	ND	ND	IRIS, ATSDR	v	4.0E+00		2.3E+01	ND	9.2E+00	ND	9.2E+00	9.2E+00	5.2E+01	ND	5.2E+01	5.2E+01
Benzene	4.0E-03	8.6E-03	5.5E-02	2.7E-02	IRIS	v	5.0E-03		5.6E-02	5.7E-03	1.5E-02	7.4E-03	5.7E-03	5.7E-03	8.3E-02	1.0E-02	1.0E-02	1.0E-02
Chloroethane	ND	2.9E+00	ND	ND	IRIS	v	1.0E-03	RL	3.2E+01	ND	6.0E+00	ND	6.0E+00	6.0E+00	3.4E+01	ND	3.4E+01	3.4E+01
cis-1,2-Dichloroethene	2.0E-03	ND	ND	ND	IRIS	v	7.0E-02		6.7E-02	ND	4.0E-02	ND	4.0E-02	7.0E-02	2.3E-01	ND	2.3E-01	2.3E-01
Cyclohexane	ND	1.7E+00	ND	ND	IRIS	v	1.0E-03	RL	1.9E+01	ND	3.5E+00	ND	3.5E+00	3.5E+00	2.0E+01	ND	2.0E+01	2.0E+01
Ethylbenzene	1.0E-01	2.9E-01	1.1E-02	8.8E-03	CALEPA, IRIS	v	7.0E-01		1.6E+00	2.1E-02	4.6E-01	2.5E-02	2.1E-02	7.0E-01	2.6E+00	3.3E-02	3.3E-02	7.0E-01
Methylene Chloride	6.0E-03	1.7E-01	2.0E-03	3.5E-05	IRIS	v	5.0E-03		1.8E-01	3.7E-01	9.0E-02	1.0E+00	9.0E-02	9.0E-02	5.2E-01	1.4E+00	5.2E-01	5.2E-01
Styrene	2.0E-01	2.9E-01	ND	ND	IRIS	v	1.0E-01		2.2E+00	ND	5.3E-01	ND	5.3E-01	5.3E-01	3.0E+00	ND	3.0E+00	3.0E+00
Tetrachloroethene	6.0E-03	1.1E-02	2.1E-03	9.1E-04	IRIS	v	5.0E-03		7.8E-02	1.6E-01	2.0E-02	2.2E-01	2.0E-02	2.0E-02	1.1E-01	2.9E-01	1.1E-01	1.1E-01
Toluene	8.0E-02	1.4E+00	ND	ND	IRIS	v	1.0E+00		2.3E+00	ND	1.0E+00	ND	1.0E+00	1.0E+00	5.9E+00	ND	5.9E+00	5.9E+00
Trichloroethene	5.0E-04	5.7E-04	4.6E-02	1.4E-02	IRIS	v	5.0E-03		4.6E-03	8.8E-03	1.1E-03	1.3E-02	1.1E-03	5.0E-03	6.0E-03	1.8E-02	6.0E-03	6.0E-03
Trichlorofluoromethane	3.0E-01	ND	ND	ND	IRIS	v	2.0E+00		1.0E+01	ND	6.0E+00	ND	6.0E+00	6.0E+00	3.5E+01	ND	3.5E+01	3.5E+01
Xylenes, mixture	2.0E-01	2.9E-02	ND	ND	IRIS	v	1.0E+01		3.1E-01	ND	6.0E-02	ND	6.0E-02	1.0E+01	3.3E-01	ND	3.3E-01	1.0E+01
Semi-volatile Organic Compounds																		
2,4-Dimethylphenol	2.0E-02	ND	ND	ND	IRIS		7.0E-01		6.7E-01	ND	4.0E-01	ND	4.0E-01	7.0E-01	2.3E+00	ND	2.3E+00	2.3E+00
3-Methylphenol	5.0E-02	(a)	ND	ND	IRIS, CALEPA		2.0E-02		1.7E+00	ND	1.0E+00	ND	1.0E+00	1.0E+00	5.8E+00	ND	5.8E+00	5.8E+00
4-Chloroaniline	4.0E-03	ND	2.0E-01	ND	IRIS, PPRTV		1.0E-01		1.3E-01	3.9E-03	8.0E-02	1.2E-02	3.9E-03	1.0E-01	4.7E-01	1.6E-02	1.6E-02	1.0E-01
4-Methylphenol	1.0E-01	(a)	ND	ND	ATSDR, CALEPA		1.0E-02	RL	3.3E+00	ND	2.0E+00	ND	2.0E+00	2.0E+00	1.2E+01	ND	1.2E+01	1.2E+01
Acenaphthene	6.0E-02	ND	ND	ND	IRIS	v	2.0E+00		2.0E+00	ND	1.2E+00	ND	1.2E+00	1.2E+00	7.0E+00	ND	7.0E+00	7.0E+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		3.3E+00	ND	2.0E+00	ND	2.0E+00	4.0E+00	1.2E+01	ND	1.2E+01	1.2E+01
Anthracene	3.0E-01	ND	ND	ND	IRIS	v	1.0E-02	RL	1.0E+01	ND	6.0E+00	ND	6.0E+00	6.0E+00	3.5E+01	ND	3.5E+01	3.5E+01
Benzo(a)anthracene	ND	ND	1.0E-01	2.1E-01	IRIS x TEF	v	1.0E-04		ND	1.1E-03	ND	1.1E-03	1.1E-03	1.1E-03	ND	1.5E-03	1.5E-03	1.5E-03
Benzo(a)pyrene	3.0E-04	5.7E-07	1.0E+00	(a)	IRIS		2.0E-04		ND	7.8E-04	ND	2.3E-03	7.8E-04	7.8E-04	ND	3.3E-03	3.3E-03	3.3E-03
Benzo(b)fluoranthene	ND	ND	1.0E-01	(a)	IRIS x TEF		2.0E-04		ND	7.8E-03	ND	2.3E-02	7.8E-03	7.8E-03	ND	3.3E-02	3.3E-02	3.3E-02
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	1.0E-02	(a)	IRIS x TEF		1.0E-04	RL	ND	7.8E-02	ND	2.3E-01	7.8E-02	7.8E-02	ND	3.3E-01	3.3E-01	3.3E-01
Bis(2-ethylhexyl)phthalate	2.0E-02	ND	1.4E-02	(a)	IRIS, CALEPA		2.0E-03		6.7E-01	5.6E-02	4.0E-01	1.7E-01	5.6E-02	5.6E-02	2.3E+00	2.3E-01	2.3E-01	2.3E-01
Butyl benzyl phthalate	2.0E-01	ND	1.9E-03	ND	IRIS, PPRTV		1.0E-01		6.7E+00	4.1E-01	4.0E+00	1.2E+00	4.1E-01	4.1E-01	2.3E+01	1.7E+00	1.7E+00	1.7E+00
Chrysene	ND	ND	1.0E-03	(a)	IRIS x TEF		1.0E-02	RL	ND	7.8E-01	ND	2.3E+00	7.8E-01	7.8E-01	ND	3.3E+00	3.3E+00	3.3E+00
Dibenzo(a,h)anthracene	ND	ND	1.0E+00	(a)	IRIS x TEF		3.0E-04		ND	7.8E-04	ND	2.3E-03	7.8E-04	7.8E-04	ND	3.3E-03	3.3E-03	3.3E-03
Diethyl phthalate	8.0E-01	ND	ND	ND	IRIS		5.0E+00		2.7E+01	ND	1.6E+01	ND	1.6E+01	1.6E+01	9.3E+01	ND	9.3E+01	9.3E+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		1.3E+00	ND	8.0E-01	ND	8.0E-01	8.0E-01	4.7E+00	ND	4.7E+00	4.7E+00
Fluorene	4.0E-02	ND	ND	ND	IRIS	v	1.0E+00		1.3E+00	ND	8.0E-01	ND	8.0E-01	8.0E-01	4.7E+00	ND	4.7E+00	4.7E+00
Indeno(1,2,3-cd)pyrene	ND	ND	1.0E-01	(a)	IRIS x TEF		4.0E-04		ND	7.8E-03	ND	2.3E-02	7.8E-03	7.8E-03	ND	3.3E-02	3.3E-02	3.3E-02
Naphthalene	2.0E-02	8.6E-04	ND	ND*	IRIS	v	2.0E-02		9.4E-03	ND	1.8E-03	ND	1.8E-03	1.8E-03	1.0E-02	ND	1.0E-02	1.0E-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		1.0E+01	ND	6.0E+00	ND	6.0E+00	6.0E+00	3.5E+01	ND	3.5E+01	3.5E+01
Pyrene	3.0E-02	ND	ND	ND	IRIS	v	1.0E+00		1.0E+00	ND	6.0E-01	ND	6.0E-01	6.0E-01	3.5E+00	ND	3.5E+00	3.5E+00
Metals																		
Antimony	4.0E-04	ND	ND	ND	IRIS		6.0E-03		1.3E-02	ND	8.0E-03	ND	8.0E-03	8.0E-03	4.7E-02	ND	4.7E-02	4.7E-02
Arsenic	3.0E-04	(a)	1.5E+00	(a)	IRIS, CALEPA		1.0E-02		1.0E-02	5.2E-04	6.0E-03	1.6E-03	5.2E-04	1.0E-02	3.5E-02	2.2E-03	2.2E-03	1.0E-02
Barium	2.0E-01	(a)	ND	ND	IRIS, HEAST		2.0E+00		6.7E+00	ND	4.0E+00	ND	4.0E+00	4.0E+00	2.3E+01	ND	2.3E+01	2.3E+01
Beryllium	2.0E-03	(a)	ND	(a)	IRIS		4.0E-03		6.7E-02	ND	4.0E-02	ND	4.0E-02	4.0E-02	2.3E-01	ND	2.3E-01	2.3E-01
Cadmium (Water)	5.0E-04	(a)	ND	(a)	IRIS, ATSDR		5.0E-03		1.7E-02	ND	1.0E-02	ND	1.0E-02	1.0E-02	5.8E-02	ND	5.8E-02	5.8E-02
Chromium, Total	ND	(a)	ND	(a)	NA		1.0E-01		ND	ND	ND	ND	ND	1.0E-01	ND	ND	ND	1.0E-01
Chromium III (Insoluble Salts)	1.5E+00	ND	ND	ND	IRIS		5.0E-03	RL	5.0E+01	ND	3.0E+01	ND	3.0E+01	3.0E+01	1.8E+02	ND	1.8E+02	1.8E+02
Chromium VI	3.0E-03	(a)	5.0E-01	(a)	IRIS, NJ		5.0E-04	RL	1.0E-01	1.6E-03	6.0E-02	4.7E-03	1.6E-03	1.6E-03	3.5E-01	6.5E-03	6.5E-03	6.5E-03
Copper	4.0E-02	ND	ND	ND	HEAST		1.3E+00		1.3E+00	ND	8.0E-01	ND	8.0E-01	1.3E+00	4.7E+00	ND	4.7E+00	4.7E+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
Mercury (mercuric chloride and inorganic Salts)	3.0E-04	(a)	ND	ND	IRIS, RSL		2.0E-03		1.0E-02	ND	6.0E-03	ND	6.0E-03	6.0E-03	3.5E-02	ND	3.5E-02	3.5E-02
Nickel Soluble Salts	2.0E-02	(a)	ND	(a)	IRIS, ATSDR, CALEPA		1.0E-01		6.7E-01	ND	4.0E-01	ND	4.0E-01	4.0E-01	2.3E+00	ND	2.3E+00	2.3E+00
Selenium	5.0E-03	(a)	ND	ND	IRIS, CALEPA		5.0E-02		1.7E-01	ND	1.0E-01	ND	1.0E-01	1.0E-01	5.8E-01	ND	5.8E-01	5.8E-01
Silver	5.0E-03	ND	ND	ND	IRIS		1.0E-01		1.7E-01	ND	1.0E-01	ND	1.0E-01	1.0E-01	5.8E-01	ND	5.8E-01	5.8E-01
Thallium (soluble salts)	1.0E-05	ND	ND	ND	PPRTV		2.0E-03		3.3E-04	ND	2.0E-04	ND	2.0E-04	2.0E-03	1.2E-03	ND	1.2E-03	2.0E-03
Zinc	3.0E-01	ND	ND	ND	IRIS		2.0E+00		1.0E+01	ND	6.0E+00	ND	6.0E+00	6.0E+00	3.5E+01	ND	3.5E+01	3.5E+01
PCBs																		
Aroclor-1242	ND	ND	2.0E+00	(a)	IRIS		1.0E-03		ND	3.9E-04	ND	1.2E-03	3.9E-04	1.0E-03	ND	1.6E-03	1.6E-03	1.6E-03
Aroclor-1248	ND	ND	2.0E+00	(a)	IRIS		1.0E-03		ND	3.9E-04	ND	1.2E-03	3.9E-04	1.0E-03	ND	1.6E-03	1.6E-03	1.6E-03
Aroclor-1254	2.0E-05	ND	2.0E+00	(a)	IRIS		1.0E-03		6.7E-04	4.0E-04	4.0E-04	1.2E-03	3.9E-04	1.0E-03	2.3E-03	1.6E-03	1.6E-03	1.6E-03
Aroclor-1260	ND	ND	2.0E+00	(a)	IRIS		1.0E-03		ND	3.9E-04	ND	1.2E-03	3.9E-04	1.0E-03	ND	1.6E-03	1.6E-03	1.6E-03
Nitroaromatics																		
4-Nitrotoluene	4.0E-03	ND	1.6E-02	ND	PPRTV		2.0E-04		1.3E-01	4.9E-02	8.0E-02	1.5E-01	4.9E-02	4.9E-02	4.7E-01	2.0E-01	2.0E-01	2.0E-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 Child	Type 4 Industrial Worker Parameters
THI = Target Hazard Index =	1	1	1
BW = Body Weight =	80 kg	15 kg	80 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 =	2.5 L/day	0.78 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

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LMS 8/9/17

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)	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)	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
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	1.9E+05	ND	1.9E+05	2.0E+02	6.1E+05	ND	6.1E+05	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	1.5E+02	1.5E+02	5.0E+00	ND	5.7E+02	5.7E+02	5.0E+00	5.0E+00
Benzo(a)pyrene	NA	ND	1.6E+00	2.0E-04		2.0E-02	1.6E+00	ND	1.5E+01	1.5E+01	1.6E+00	ND	5.7E+01	5.7E+01	1.6E+00	1.6E+00
Benzo(b)fluoranthene	NA	ND	5.0E+00	2.0E-04		2.0E-02	5.0E+00	ND	1.5E+02	1.5E+02	5.0E+00	ND	5.7E+02	5.7E+02	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	1.5E+03	1.5E+03	5.0E+00	ND	5.7E+03	5.7E+03	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	1.0E-01		1.0E+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	1.5E+04	1.5E+04	5.0E+00	ND	5.7E+04	5.7E+04	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	1.5E+01	1.5E+01	5.0E+00	ND	5.7E+01	5.7E+01	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	1.5E+02	1.5E+02	5.0E+00	ND	5.7E+02	5.7E+02	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	ND	2.6E+02	1.0E+02	2.8E+02	ND	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	ND	ND	ND	1.0E+02	ND	ND	ND	1.2E+03	1.2E+03
Chromium III (Insoluble Salts)	NA	NA	NA	5.0E-03	RL	5.0E-01	5.0E-01	9.6E+05	ND	9.6E+05	5.0E-01	3.1E+06	ND	3.1E+06	5.0E-01	5.0E-01
Chromium VI	NA	NA	NA	5.0E-04	RL	5.0E-02	5.0E-02	1.9E+03	2.9E+01	2.9E+01	5.0E-02	6.1E+03	1.1E+02	1.1E+02	5.0E-02	5.0E-02
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
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
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

PREPARED/DATE: MKB 6/30/14
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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)
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

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) $$\frac{THI \times BW \times ATn \times 365days/year}{EF \times ED \times [(1/RfDi \times (1/VF + 1/PEF) \times InhR) + (1/RfDo \times Irs \times CF)]}$$

(f) $$\frac{TR \times BW \times ATc \times 365days/year}{EF \times ED \times [(SFi \times (1/VF + 1/PEF) \times InhR) + (SFo \times Irs \times CF)]}$$

(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

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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)
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	9.5E-01	9.5E-01	1.5E+01	1.5E+01	5.3E+00	5.3E+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	3.5E-02	3.5E-02	9.8E-03	1.1E+00	5.3E-02	5.3E-02	1.5E-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	2.3E+00	2.3E+00	4.9E-01	4.9E-01	1.3E+01	1.3E+01	2.8E+00	2.8E+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	9.2E+00	9.2E+00	1.9E+00	1.9E+00	5.2E+01	5.2E+01	1.1E+01	1.1E+01
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	5.7E-03	5.7E-03	2.9E-03	2.9E-03	1.0E-02	1.0E-02	5.1E-03	5.1E-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	3.4E+01	3.4E+01	9.6E+00	9.6E+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	4.0E-02	4.0E-02	1.2E-02	2.1E-02	2.3E-01	2.3E-01	6.9E-02	6.9E-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	2.0E+01	2.0E+01	2.0E+01	2.0E+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	2.1E-02	2.1E-02	2.3E-02	7.8E-01	3.3E-02	3.3E-02	3.7E-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	9.0E-02	9.0E-02	2.3E-02	2.3E-02	5.2E-01	5.2E-01	1.3E-01	1.3E-01
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	5.3E-01	5.3E-01	5.8E-01	5.8E-01	3.0E+00	3.0E+00	3.3E+00	3.3E+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	2.0E-02	2.0E-02	9.0E-03	9.0E-03	1.1E-01	1.1E-01	5.1E-02	5.1E-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	1.0E+00	1.0E+00	7.2E-01	7.2E-01	5.9E+00	5.9E+00	4.1E+00	4.1E+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	1.1E-03	1.1E-03	3.8E-04	1.8E-03	6.0E-03	6.0E-03	2.1E-03	2.1E-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	6.0E+00	6.0E+00	3.8E+00	3.8E+00	3.5E+01	3.5E+01	2.2E+01	2.2E+01
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	6.0E-02	6.0E-02	5.9E-02	9.9E+00	3.3E-01	3.3E-01	3.3E-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	4.0E-01	4.0E-01	4.7E-01	8.3E-01	2.3E+00	2.3E+00	2.8E+00	2.8E+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	1.0E+00	1.0E+00	8.2E-01	8.2E-01	5.8E+00	5.8E+00	4.7E+00	4.7E+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	3.9E-03	3.9E-03	1.7E-03	4.3E-02	1.6E-02	1.6E-02	7.0E-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	2.0E+00	2.0E+00	1.6E+00	1.6E+00	1.2E+01	1.2E+01	9.4E+00	9.4E+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	1.2E+00	1.2E+00	1.2E+01	9.6E+00	7.0E+00	7.0E+00	7.2E+01	7.2E+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	2.0E+00	2.0E+00	6.1E-01	1.2E+00	1.2E+01	1.2E+01	3.5E+00	3.5E+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	6.0E+00	6.0E+00	2.0E+02	2.0E+02	3.5E+01	3.5E+01	1.2E+03	1.2E+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	1.1E-03	1.1E-03	3.8E-01	3.8E-01	1.5E-03	1.5E-03	5.3E-01	5.3E-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	7.8E-04	7.8E-04	9.1E-01	9.1E-01	3.3E-03	3.3E-03	3.8E+00	3.8E+00
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	7.8E-03	7.8E-03	9.3E+00	9.3E+00	3.3E-02	3.3E-02	3.9E+01	3.9E+01
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
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	5.6E-02	5.6E-02	1.3E+01	1.3E+01	2.3E-01	2.3E-01	5.6E+01	5.6E+01
Butyl benzyl phthalate	1.4E+01	7.2E+03	RSL	3.0E-01	1.3E-01	5.2E-05	2.0E-01	1.0E-01	1.0E-01	1.5E+00	4.1E-01	4.1E-01	5.9E+00	5.9E+00	1.7E+00	1.7E+00	2.5E+01	2.5E+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	7.8E-01	7.8E-01	2.8E+02	2.8E+02	3.3E+00	3.3E+00	1.2E+03	1.2E+03
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	7.8E-04	7.8E-04	3.0E+00	3.0E+00	3.3E-03	3.3E-03	1.3E+01	1.3E+01
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	1.6E+01	1.6E+01	6.6E+00	6.6E+00	9.3E+01	9.3E+01	3.8E+01	3.8E+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	8.0E-01	8.0E-01	8.9E+01	7.0E+01	4.7E+00	4.7E+00	5.2E+02	5.2E+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	8.0E-01	8.0E-01	1.5E+01	1.2E+01	4.7E+00	4.7E+00	8.7E+01	8.7E+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	7.8E-03	7.8E-03	3.1E+01	3.1E+01	3.3E-02	3.3E-02	1.3E+02	1.3E+02
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	5.9E-03	1.0E-02	1.0E-02	3.3E-02	2.9E-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	6.0E+00	6.0E+00	3.5E+00	3.5E+00	3.5E+01	3.5E+01	2.0E+01	2.0E+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	6.0E-01	6.0E-01	6.6E+01	5.1E+01	3.5E+00	3.5E+00	3.8E+02	3.8E+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	8.0E-03	8.0E-03	3.6E-01	3.6E-01	4.7E-02	4.7E-02	2.1E+00	2.1E+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	5.2E-04	5.2E-04	1.5E-02	2.9E-01	2.2E-03	2.2E-03	6.4E-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	4.0E+00	4.0E+00	1.7E+02	1.7E+02	2.3E+01	2.3E+01	9.6E+02	9.6E+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	4.0E-02	4.0E-02	3.2E+01	3.2E+01	2.3E-01	2.3E-01	1.8E+02	1.8E+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	1.0E-02	1.0E-02	7.5E-01	7.5E-01	5.8E-02	5.8E-02	4.4E+00	4.4E+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	ND	ND	ND	1.9E+00	ND	ND	ND	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-03	5.0E-03	9.0E+03	3.0E+01	3.0E+01	5.4E+07	1.0E+05	1.8E+02	1.8E+02	3.2E+08	1.0E+05
Chromium VI	1.9E+01		RSL	3.0E-01	1.3E-01	0.0E+00	2.0E-01	5.0E-04	5.0E-04	9.6E-03	1.6E-03	1.6E-03	3.0E-02	3.0E-02	6.5E-03	6.5E-03	1.3E-01	1.3E-01
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	8.0E-01	8.0E-01	2.8E+01	4.6E+01	4.7E+00	4.7E+00	1.6E+02	1.6E+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
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	6.0E-03	6.0E-03	3.1E-01	3.1E-01	3.5E-02	3.5E-02	1.8E+00	1.8E+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	4.0E-01	4.0E-01	2.6E+01	2.6E+01	2.3E+00	2.3E+00	1.5E+02	1.5E+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	1.0E-01	1.0E-01	5.2E-01	5.2E-01	5.8E-01	5.8E-01	3.0E+00	3.0E+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	1.0E-01	1.0E-01	8.5E-01	8.5E-01	5.8E-01	5.8E-01	5.0E+00	5.0E+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	2.0E-04	2.0E-04	1.4E-02	1.4E-01	1.2E-03	1.2E-03	8.3E-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	1.0E-01	1.0E-01	1.0E+02	2.0E+02	5.8E-01	5.8E-01	5.8E+02	5.8E+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	6.0E+00	6.0E+00	3.7E+02	3.7E+02	3.5E+01	3.5E+01	2.2E+03	2.2E+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	3.9E-04	3.9E-04	6.1E-02	1.6E-01	1.6E-03	1.6E-03	2.6E-01	2.6E-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	3.9E-04	3.9E-04	6.0E-02	1.5E-01	1.6E-03	1.6E-03	2.5E-01	2.5E-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	3.9E-04	3.9E-04	1.0E-01	2.6E-01	1.6E-03	1.6E-03	4.3E-01	4.3E-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	3.9E-04	3.9E-04	2.7E-01	7.0E-01	1.6E-03	1.6E-03	1.1E+00	1.1E+00

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LMS 8/9/17

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'/$Þ_b$	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)
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	4.9E-02	4.9E-02	4.5E-02	4.5E-02	2.0E-01	2.0E-01	1.9E-01	1.9E-01

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. $K_d = K_{oc} * f_{oc}$.
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)

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LMS 8/9/17

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	9.5E-01	2.2E+03	ND	9.0E+03	ND	2.2E+03	9.5E-01
1,1-Dichloroethane	2.1E+03	1.1E+00	1.6E+04	4.5E+01	1.7E+05	4.5E+01	4.5E+01	1.1E+00
2-Butanone	7.8E+03	4.9E-01	9.2E+03	ND	4.2E+04	ND	9.2E+03	4.9E-01
Acetone	6.7E+03	1.9E+00	3.3E+04	ND	1.9E+05	ND	3.3E+04	1.9E+00
Benzene	4.5E+03	2.9E-03	3.6E+01	1.8E+01	1.5E+02	1.9E+01	1.8E+01	2.9E-03
Chloroethane (Ethyl chloride)	1.1E+03	1.7E+00	3.2E+03	ND	1.3E+04	ND	3.2E+03	1.7E+00
cis-1,2-Dichloroethene	2.7E+03	2.1E-02	1.6E+02	ND	1.7E+03	ND	1.6E+02	2.1E-02
Cyclohexane	7.8E+02	3.6E+00	1.4E+03	ND	5.5E+03	ND	1.4E+03	3.6E+00
Ethylbenzene	7.6E+03	7.8E-01	1.8E+03	9.4E+01	8.3E+03	1.0E+02	9.4E+01	7.8E-01
Methylene Chloride	2.1E+03	2.3E-02	2.1E+02	2.8E+03	1.2E+03	4.6E+03	2.1E+02	2.3E-02
Styrene	1.3E+04	5.8E-01	3.1E+03	ND	1.4E+04	ND	3.1E+03	5.8E-01
Tetrachloroethene	2.6E+03	9.0E-03	2.9E+01	3.3E+02	1.2E+02	3.4E+02	2.9E+01	9.0E-03
Toluene	5.6E+03	7.2E-01	3.6E+03	ND	2.2E+04	ND	3.6E+03	7.2E-01
Trichloroethene	2.4E+03	1.8E-03	1.4E+00	1.9E+01	5.7E+00	2.0E+01	1.4E+00	1.8E-03
Trichlorofluoromethane	5.1E+02	3.8E+00	2.3E+04	ND	2.5E+05	ND	2.3E+04	3.8E+00
Xylenes, mixture	7.7E+03	9.9E+00	2.3E+02	ND	9.3E+02	ND	2.3E+02	9.9E+00
SVOCS								
2,4-Dimethylphenol	NA	8.3E-01	1.6E+03	ND	1.7E+04	ND	1.6E+03	8.3E-01
3-Methylphenol	NA	8.2E-01	3.9E+03	ND	4.2E+04	ND	3.9E+03	8.2E-01
4-Chloroaniline	NA	4.3E-02	3.1E+02	4.6E+01	3.3E+03	1.2E+02	4.6E+01	4.3E-02
4-Methylphenol	NA	1.6E+00	7.8E+03	ND	8.3E+04	ND	7.8E+03	1.6E+00
Acenaphthene	2.0E+05	9.6E+00	4.7E+03	ND	5.0E+04	ND	4.7E+03	9.6E+00
Acenaphthylene	NA	2.1E-02	ND	ND	ND	ND	ND	2.1E-02
Acetophenone	7.4E+04	1.2E+00	7.8E+03	ND	8.3E+04	ND	7.8E+03	1.2E+00
Anthracene	7.3E+05	2.0E+02	2.3E+04	ND	2.5E+05	ND	2.3E+04	2.0E+02
Benzo(a)anthracene	6.3E+06	3.8E-01	ND	9.1E+01	ND	2.4E+02	9.1E+01	3.8E-01
Benzo(a)pyrene	NA	9.1E-01	ND	9.1E+00	ND	2.4E+01	9.1E+00	9.1E-01
Benzo(b)fluoranthene	NA	9.3E+00	ND	9.1E+01	ND	2.4E+02	9.1E+01	9.3E+00
Benzo(ghi)perylene	NA	1.9E+00	ND	ND	ND	ND	ND	1.9E+00
Benzo(k)fluoranthene	NA	9.1E+01	ND	9.1E+02	ND	2.4E+03	9.1E+02	9.1E+01
Bis(2-ethylhexyl)phthalate	NA	1.3E+01	1.6E+03	6.5E+02	1.7E+04	1.7E+03	6.5E+02	1.3E+01
Butyl benzyl phthalate	NA	5.9E+00	1.6E+04	4.8E+03	1.7E+05	1.3E+04	4.8E+03	5.9E+00
Chrysene	NA	2.8E+02	ND	9.1E+03	ND	2.4E+04	9.1E+03	2.8E+02
Dibenzo(a,h)anthracene	NA	3.0E+00	ND	9.1E+00	ND	2.4E+01	9.1E+00	3.0E+00
Diethyl phthalate	NA	6.6E+00	6.3E+04	ND	6.7E+05	ND	6.3E+04	6.6E+00
Dimethyl phthalate	NA	1.2E+02	ND	ND	ND	ND	ND	1.2E+02
Fluoranthene	NA	7.0E+01	3.1E+03	ND	3.3E+04	ND	3.1E+03	7.0E+01
Fluorene	3.9E+05	1.2E+01	3.1E+03	ND	3.3E+04	ND	3.1E+03	1.2E+01
Indeno(1,2,3-cd)pyrene	NA	3.1E+01	ND	9.1E+01	ND	2.4E+02	9.1E+01	3.1E+01
Naphthalene	6.4E+04	5.9E-03	5.5E+01	ND	2.3E+02	ND	5.5E+01	5.9E-03
Phenanthrene	NA	1.9E-01	ND	ND	ND	ND	ND	1.9E-01
Phenol	NA	3.5E+00	2.3E+04	ND	2.5E+05	ND	2.3E+04	3.5E+00
Pyrene	3.4E+06	5.1E+01	2.3E+03	ND	2.5E+04	ND	2.3E+03	5.1E+01
Metals								
Antimony	NA	3.6E-01	3.1E+01	ND	3.3E+02	ND	3.1E+01	3.6E-01
Arsenic	NA	2.9E-01	2.3E+01	6.1E+00	2.5E+02	1.6E+01	6.1E+00	2.9E-01
Barium	NA	1.7E+02	1.5E+04	ND	1.6E+05	ND	1.5E+04	1.7E+02
Beryllium	NA	3.2E+01	1.6E+02	6.7E+04	1.6E+03	6.7E+04	1.6E+02	3.2E+01
Cadmium (Diet)	NA	7.5E-01	7.8E+01	8.9E+04	8.2E+02	8.9E+04	7.8E+01	7.5E-01
Chromium, Total	NA	1.9E+00	ND	ND	ND	ND	ND	1.9E+00
Chromium III (Insoluble Salts)	NA	1.0E+05	1.2E+05	ND	1.3E+06	ND	1.2E+05	1.0E+05
Chromium VI	NA	3.0E-02	2.3E+02	1.8E+01	2.5E+03	4.7E+01	1.8E+01	3.0E-02
Copper	NA	4.6E+01	3.1E+03	ND	3.3E+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
Mercury (Mercuric Chloride and Inorganic Salts)	NA	3.1E-01	2.3E+01	ND	2.5E+02	ND	2.3E+01	3.1E-01
Nickel Soluble Salts	NA	2.6E+01	1.5E+03	6.2E+05	1.6E+04	6.2E+05	1.5E+03	2.6E+01
Selenium	NA	5.2E-01	3.9E+02	ND	4.2E+03	ND	3.9E+02	5.2E-01
Silver	NA	8.5E-01	3.9E+02	ND	4.2E+03	ND	3.9E+02	8.5E-01
Thallium (soluble salts)	NA	1.4E-01	7.8E-01	ND	8.3E+00	ND	7.8E-01	1.4E-01
Zinc	NA	3.7E+02	2.3E+04	ND	2.5E+05	ND	2.3E+04	3.7E+02
PCBs								
Aroclor-1242	8.2E+05	1.6E-01	ND	4.6E+00	ND	1.2E+01	4.6E+00	1.6E-01
Aroclor-1248	8.7E+05	1.5E-01	ND	4.6E+00	ND	1.2E+01	4.6E+00	1.5E-01
Aroclor-1254	1.2E+06	2.6E-01	1.6E+00	4.6E+00	1.7E+01	1.2E+01	1.6E+00	2.6E-01
Aroclor-1260	1.8E+06	7.0E-01	ND	4.6E+00	ND	1.2E+01	4.6E+00	7.0E-01
Nitroaromatics								
4-Nitrotoluene	NA	4.5E-02	3.1E+02	5.7E+02	3.3E+03	1.5E+03	3.1E+02	4.5E-02

Notes:
RRS Risk Reduction Standard
ND Not Determined - Can not be calculated

(a) $$\frac{THI \times BW \times ATn \times 365days/year}{EF \times ED \times [(1/RfDi \times (1/VF + 1/PEF) \times InhR) + (1/RfDo \times Irs \times CF)]}$$

(b) $$\frac{TR \times BW \times ATc \times 365days/year}{EF \times ED \times [(SFi \times (1/VF + 1/PEF) \times InhR) + (SFo \times Irs \times CF)]}$$

(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	80
Averaging Time, Carcinogen (ATc)	70	70
Averaging Time, Noncarcinogen (ATn)	6	24
Exposure Duration (ED)	6	24
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

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LMS 8/9/17

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	5.3E+00	1.3E+04	ND	1.3E+04	5.3E+00
1,1-Dichloroethane	2.1E+03	1.1E+00	4.7E+05	6.1E+01	6.1E+01	1.1E+00
2-Butanone	7.8E+03	2.8E+00	6.1E+04	ND	6.1E+04	2.8E+00
Acetone	6.7E+03	1.1E+01	3.0E+05	ND	3.0E+05	1.1E+01
Benzene	4.5E+03	5.1E-03	2.2E+02	2.7E+01	2.7E+01	5.1E-03
Chloroethane (Ethyl chloride)	1.1E+03	9.6E+00	1.8E+04	ND	1.8E+04	9.6E+00
cis-1,2-Dichloroethene	2.7E+03	6.9E-02	4.7E+03	ND	4.7E+03	6.9E-02
Cyclohexane	7.8E+02	2.0E+01	7.7E+03	ND	7.7E+03	2.0E+01
Ethylbenzene	7.6E+03	7.8E-01	1.2E+04	1.4E+02	1.4E+02	7.8E-01
Methylene Chloride	2.1E+03	1.3E-01	1.8E+03	7.6E+03	1.8E+03	1.3E-01
Styrene	1.3E+04	3.3E+00	2.1E+04	ND	2.1E+04	3.3E+00
Tetrachloroethene	2.6E+03	5.1E-02	1.7E+02	4.7E+02	1.7E+02	5.1E-02
Toluene	5.6E+03	4.1E+00	3.7E+04	ND	3.7E+04	4.1E+00
Trichloroethene	2.4E+03	2.1E-03	8.1E+00	2.8E+01	8.1E+00	2.1E-03
Trichlorofluoromethane	5.1E+02	2.2E+01	7.0E+05	ND	7.0E+05	2.2E+01
Xylenes, mixture	7.7E+03	9.9E+00	1.3E+03	ND	1.3E+03	9.9E+00
SVOCS						
2,4-Dimethylphenol	NA	2.8E+00	4.7E+04	ND	4.7E+04	2.8E+00
3-Methylphenol	NA	4.7E+00	1.2E+05	ND	1.2E+05	4.7E+00
4-Chloroaniline	NA	4.3E-02	9.3E+03	3.3E+02	3.3E+02	4.3E-02
4-Methylphenol	NA	9.4E+00	2.3E+05	ND	2.3E+05	9.4E+00
Acenaphthene	2.0E+05	7.2E+01	1.4E+05	ND	1.4E+05	7.2E+01
Acenaphthylene	NA	2.1E-02	ND	ND	ND	2.1E-02
Acetophenone	7.4E+04	3.5E+00	2.3E+05	ND	2.3E+05	3.5E+00
Anthracene	7.3E+05	1.2E+03	7.0E+05	ND	7.0E+05	1.2E+03
Benzo(a)anthracene	6.3E+06	5.3E-01	ND	6.5E+02	6.5E+02	5.3E-01
Benzo(a)pyrene	NA	3.8E+00	ND	6.5E+01	6.5E+01	3.8E+00
Benzo(b)fluoranthene	NA	3.9E+01	ND	6.5E+02	6.5E+02	3.9E+01
Benzo(ghi)perylene	NA	1.9E+00	ND	ND	ND	1.9E+00
Benzo(k)fluoranthene	NA	3.8E+02	ND	6.5E+03	6.5E+03	3.8E+02
Bis(2-ethylhexyl)phthalate	NA	5.6E+01	4.7E+04	4.7E+03	4.7E+03	5.6E+01
Butyl benzyl phthalate	NA	2.5E+01	4.7E+05	3.4E+04	3.4E+04	2.5E+01
Chrysene	NA	1.2E+03	ND	6.5E+04	6.5E+04	1.2E+03
Dibenzo(a,h)anthracene	NA	1.3E+01	ND	6.5E+01	6.5E+01	1.3E+01
Diethyl phthalate	NA	3.8E+01	1.9E+06	ND	1.9E+06	3.8E+01
Dimethyl phthalate	NA	1.2E+02	ND	ND	ND	1.2E+02
Fluoranthene	NA	5.2E+02	9.3E+04	ND	9.3E+04	5.2E+02
Fluorene	3.9E+05	8.7E+01	9.3E+04	ND	9.3E+04	8.7E+01
Indeno(1,2,3-cd)pyrene	NA	1.3E+02	ND	6.5E+02	6.5E+02	1.3E+02
Naphthalene	6.4E+04	2.9E-02	3.2E+02	ND	3.2E+02	2.9E-02
Phenanthrene	NA	1.9E-01	ND	ND	ND	1.9E-01
Phenol	NA	2.0E+01	7.0E+05	ND	7.0E+05	2.0E+01
Pyrene	3.4E+06	3.8E+02	7.0E+04	ND	7.0E+04	3.8E+02
Metals						
Antimony	NA	2.1E+00	9.3E+02	ND	9.3E+02	2.1E+00
Arsenic	NA	2.9E-01	7.0E+02	4.4E+01	4.4E+01	2.9E-01
Barium	NA	9.6E+02	4.2E+05	ND	4.2E+05	9.6E+02
Beryllium	NA	1.8E+02	4.5E+03	9.0E+04	4.5E+03	1.8E+02
Cadmium (Diet)	NA	4.4E+00	2.3E+03	1.2E+05	2.3E+03	4.4E+00
Chromium, Total	NA	1.9E+00	ND	ND	ND	1.9E+00
Chromium III (Insoluble Salts)	NA	1.0E+05	3.5E+06	ND	3.5E+06	1.0E+05
Chromium VI	NA	1.3E-01	6.9E+03	1.2E+02	1.2E+02	1.3E-01
Copper	NA	1.6E+02	9.3E+04	ND	9.3E+04	1.6E+02
Lead	NA	1.4E+01	1.3E+03	ND	1.3E+03	1.4E+01
Mercury (Mercuric Chloride and Inorganic Salts)	NA	1.8E+00	7.0E+02	ND	7.0E+02	1.8E+00
Nickel Soluble Salts	NA	1.5E+02	4.4E+04	8.3E+05	4.4E+04	1.5E+02
Selenium	NA	3.0E+00	1.2E+04	ND	1.2E+04	3.0E+00
Silver	NA	5.0E+00	1.2E+04	ND	1.2E+04	5.0E+00
Thallium (soluble salts)	NA	1.4E-01	2.3E+01	ND	2.3E+01	1.4E-01
Zinc	NA	2.2E+03	7.0E+05	ND	7.0E+05	2.2E+03
PCBs						
Aroclor-1242	8.2E+05	2.6E-01	ND	3.3E+01	3.3E+01	2.6E-01
Aroclor-1248	8.7E+05	2.5E-01	ND	3.3E+01	3.3E+01	2.5E-01
Aroclor-1254	1.2E+06	4.3E-01	4.7E+01	3.3E+01	3.3E+01	4.3E-01
Aroclor-1260	1.8E+06	1.1E+00	ND	3.3E+01	3.3E+01	1.1E+00
Nitroaromatics						
4-Nitrotoluene	NA	1.9E-01	9.3E+03	4.1E+03	4.1E+03	1.9E-01

Notes:
RRS Risk Reduction Standard
ND Not Determined - Can not be calculated

(a) $$\frac{THI \times BW \times ATn \times 365days/year}{EF \times ED \times [(1/RfDi \times (1/VF + 1/PEF) \times InhR) + (1/RfDo \times Irs \times CF)]}$$

(b) $$\frac{TR \times BW \times ATc \times 365days/year}{EF \times ED \times [(SFi \times (1/VF + 1/PEF) \times InhR) + (SFo \times Irs \times CF)]}$$

(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)	80	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

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LMS 8/9/17

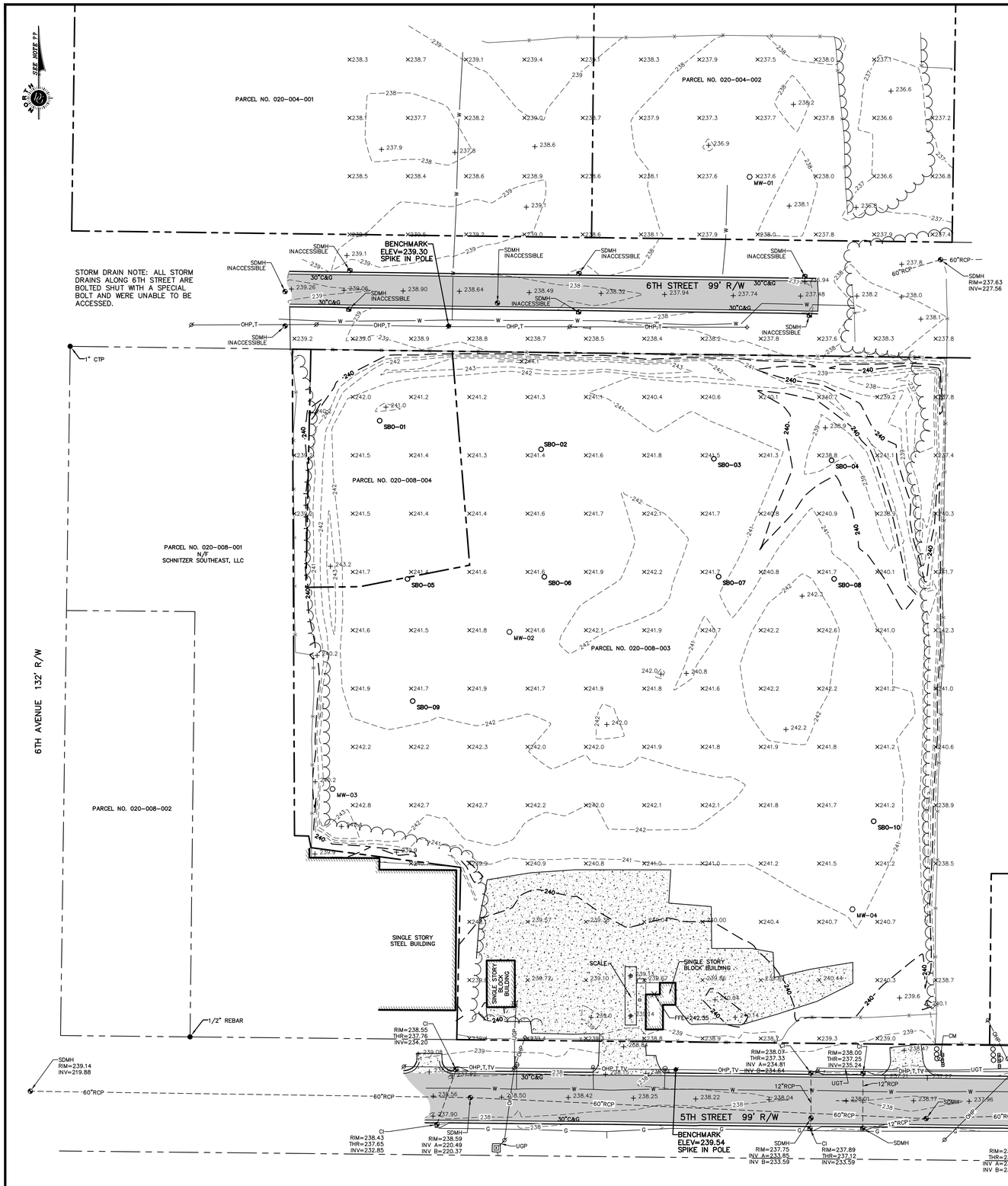
Table F-8
Derivation of VF Factors (Soil-to-Air Volatilization Factor)

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
~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

PREPARED/DATE: MKB 6/30/14
CHECKED/DATE: LWC 3/30/16

APPENDIX C

TOPOGRAPHIC SURVEY MAP OF E COHN PROPERTY PARCELS



LEGEND

PROPERTY LINE		STORM DRAIN MANHOLE	SDMH
CONTOUR LINE	240	CURB INLET	CI
WATER LINE	W	FIRE HYDRANT	
UNDERGROUND POWER	UGP	WATER VALVE	
UNDERGROUND TELEPHONE	UGT	WATER METER	
OVERHEAD UTILITIES	OHP,T,TV	TREE (AS NOTED)	
FENCE	X X	REINFORCED CONCRETE PIPE	RCP
STORM DRAIN (AS NOTED)		CURB & GUTTER	C&G
GAS LINE	G	CRIMPED TOP PIPE	CTP
BUILDING		SPOT ELEVATION	+ 240.0
CONCRETE PAVING		BENCHMARK	
ASPHALT PAVING		IRON PIN FOUND (AS NOTED)	
		UTILITY POLE & GUY	
		LIGHT POLE	

MONITORING WELL & SOIL BORING DATA

ID	NORTHING	EASTING	ELEVATION	
			GROUND	TOC
SBO-01	894552.09	2044545.63	240.9	
SBO-02	894527.52	2044684.12	241.4	
SBO-03	894519.47	2044832.24	241.4	
SBO-04	894518.16	2044933.24	239.2	
SBO-05	894416.40	2044569.45	241.3	
SBO-06	894418.25	2044686.82	241.5	
SBO-07	894418.36	2044836.31	241.4	
SBO-08	894416.44	2044935.39	241.4	
SBO-09	894311.69	2044573.92	241.6	
SBO-10	894208.60	2044969.37	241.3	
MW-01	894761.17	2044862.91	237.8	241.12
MW-02	894371.00	2044656.94	241.6	245.39
MW-03	894236.37	2044505.14	243.1	246.60
MW-04	894133.20	2044951.09	241.3	244.67

NOTES

1. DONALDSON, GARRETT AND ASSOCIATES, INC. AND THE LAND SURVEYOR WHOSE SEAL IS AFFIXED HEREON DO NOT GUARANTEE THAT ALL EASEMENTS THAT MAY AFFECT THIS PROPERTY ARE SHOWN.
2. THIS DRAWING HAS BEEN GENERATED ELECTRONICALLY. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT UNLESS IT HAS BEEN PROPERLY SEALED AND ORIGINALLY SIGNED BY A REGISTERED LAND SURVEYOR OF DONALDSON, GARRETT AND ASSOCIATES, INC. AUTHORITY OF O.C.G.A. 43-15-22.
3. THIS SURVEY HAS BEEN PREPARED IN CONFORMITY WITH THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN THE GEORGIA PLAT ACT O.C.G.A. 15-6-67,43-15-4,43-15-6,43-15-19, & 43-15-22.
4. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. UNDERGROUND UTILITIES NOT OBSERVED OR LOCATED MAY EXIST BUT MAY NOT BE SHOWN, AND MAY BE FOUND UPON EXCAVATION. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. INFORMATION REGARDING UNDERGROUND UTILITIES WERE COMPILED FROM FIELD OBSERVATIONS, MAPS OR PLANS PROVIDED BY UTILITY OWNERS, AND PER MARKINGS MADE BY UTILISURVEY, LLC. THIS INFORMATION MAY BE INACCURATE OR INCOMPLETE AND IS SUBJECT TO THE LIMITATIONS OF SUBSURFACE DETECTION EQUIPMENT, AVAILABLE RECORDS AND OTHER FACTORS. VERIFICATION OF UTILITIES SHOULD BE MADE PRIOR TO ANY CONSTRUCTION.
5. ONE FOOT CONTOUR INTERVAL SHOWN.
6. PIPE DIRECTIONS LABELED WITH A ~ ARE APPROXIMATE. ACTUAL PIPE DIRECTION AND DESTINATION COULD NOT BE DETERMINED.
7. BY GRAPHIC PLOTTING ONLY, THE PROPERTIES DEPICTED HEREON LIE WITHIN FLOOD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANCE FLOOD PLAIN, 100-YEAR FLOOD) AND FLOOD ZONE "AH" (AREAS WITH FLOOD DEPTHS OF 1 TO 3 FEET, HAVING A BASE FLOOD ELEVATION OF 239'), ACCORDING TO FEMA FLOOD INSURANCE RATE MAP 13151C0055F FOR COLUMBUS-MUSCOGEE COUNTY, GA. DATED SEPTEMBER 5, 2007.
8. THIS SURVEY IS REFERENCED TO THE GA STATE PLANE GRID, WEST ZONE, NAD83 HORIZONTAL & NAVD88 VERTICAL DATUMS AND IS BASED UPON RTK GPS OBSERVATIONS UTILIZING THE LEICA SMARTNET REFERENCE NETWORK.
11. THE PROPERTY LINES SHOWN WERE TAKEN FROM EVIDENCE FOUND, PLATS/DEEDS OF RECORD AND THE COLUMBUS-MUSCOGEE COUNTY TAX MAPS. THEY ARE SHOWN FOR REFERENCE ONLY AND NO BOUNDARY SURVEY WAS PERFORMED BY THIS SURVEYOR AT THIS TIME. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE EXAMINATION.

REFERENCES

PLATS

PLAT BOOK 136 PAGE 10

OTHER

COLUMBUS-MUSCOGEE CO. TAX MAPS

DEEDS

DEED BOOK 9253 PAGE 141
DEED BOOK 9253 PAGE 144
DEED BOOK 9253 PAGE 147

CERTIFICATION

THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 49,093 FEET AND ANGULAR ERROR OF 02" PER ANGLE POINT AND WAS ADJUSTED USING THE LEAST SQUARES METHOD
THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN N/A FEET.
THE LINEAR AND ANGULAR MEASUREMENTS SHOWN ON THIS PLAT WERE OBTAINED BY USING A TOPCON GPT-3002W TOTAL STATION.
FIELD WORK WAS COMPLETED ON 05/13/2016

GEORGIA REGISTERED No. 3122 LAND SURVEYOR DAVID G. BENNETT

TOPOGRAPHIC SURVEY

FOR

AMEC FOSTER WHEELER

OF

NORFOLK SOUTHERN RAILWAY
FORMER COHN PROPERTY

COLUMBUS MUSCOGEE COUNTY GEORGIA

R.L.S. NO. 3122	DSGN: N/A
DATE: 06/09/2016	DRWN: DGB
CHKD: DGB	C&G: N/A
SCALE: 1" = 40'	DRAWING NO. 765-16-E
PROJ. NO.: 1117-002-D1	SHEET 1 OF 1
FIELD BOOK: EDC	

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http://www.dg-a.com COA# LSF000413

B4467S.DWG/5 PLOT DATE: 06/09/2016 BY: dovid