EMA
Environmental Management Associates, LLC

October 30, 2014 Ref. No. 619

Mr. David Brownlee
Response & Remediation Program
Land Protection Branch
2 Martin Luther King, Jr. Dr. SE, Suite 1054
Atlanta, GA 30334

Dear Mr. Brownlee:

Re: Voluntary Remediation Plan and Application
Southern States, LLC
Hampton, Georgia
HSI 10141
Consent Order EPD-HW-529

On behalf of Southern States, LLC (SS), Environmental Management Associates, LLC (EMA), is submitting the attached Voluntary Remediation Plan and Application (VRPA) (one hardcopy and two electronic copies). As required, SS has submitted the application fee to your office separately.

As agreed with Mr. Jason Metzger via email correspondence on March 12, 2014, we have also submitted our responses to the EPD comments on the Focused Source Investigation Report submitted on June 25, 2012 (Fonk to Shelley, January 23, 2013). The responses can be found in Appendix F of the VRPA.

If you have any questions, please do not hesitate to contact the undersigned at (770) 271-4628.

Yours truly,

Environmental Management Associates, LLC

John O. Schwaller, PG

JS/js/1
cc – D. Shelley/G. Matti – SS
J. Kirkland - WCSR

5262 Belle Wood Court, Suite A ♦ Buford, Georgia 30518
Phone 770.271.4628 ♦ Fax 770.271.8944
www.emallc.net

VOLUNTARY REMEDIATION PLAN AND APPLICATION

SOUTHERN STATES, LLC
30 GEORGIA AVENUE
HAMPTON, GEORGIA

Consent Order EPD-HW-529
HSI No. 10141

OCTOBER 30, 2014

Prepared for

SOUTHERN STATES, LLC
30 GEORGIA AVENUE
HAMPTON, GEORGIA

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OCTOBER 30, 2014

John O. Schwaller, P.G.
(GA. Registration No. 1617)
Project Manager

EMA
Environmental Management Associates, LLC
5262 Belle Wood Court, Suite A
Buford, Georgia 30518

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1.0 INTRODUCTION

This Voluntary Remediation Program Application (VRPA) is being submitted on behalf of Southern States, LLC (SS) for property located at 30 Georgia Avenue, Hampton, Georgia (Property). A Voluntary Remediation Program (VRP) Application and Checklist and the Application Fee check are included in Appendix A. A property map, tax parcel map and warranty deed information for the Property are attached in Appendix B.

A topographic map (Property Location Map) of the surrounding area is included as Figure 1.

1.1 BACKGROUND

SS began manufacturing operations at the Hampton, GA location in 1940. SS manufactures high-voltage electrical switches and fuses at its 30-acre manufacturing facility located in Hampton, Georgia. In 1986, SS conducted a focused groundwater investigation to determine the impact from an existing wastewater sludge impoundment. The results of this and subsequent investigations identified a release of select VOCs had occurred at the Property. In December 1989, SS and the Georgia Environmental Protection Division (EPD) entered into a Consent Order (Order), No. EPD-HW-529 pursuant to the Georgia Hazardous Waste Management Act, O.C.G.A., 12-8-70(b). The Property was listed on the HSI on June 30, 1997 as Site No. 10141.

Since 1986, the Property has been the subject of a number of investigations which identified the presence of volatile organic compounds in the soil and groundwater.

1.2 PROPERTY ELIGIBILITY

The Property meets the eligibility criteria for the VRP. A release of regulated substances on the Property has been confirmed. The Property is not listed on the National Priorities List, is not currently undergoing response activities required by an order of the Regional Administrator of the United States Environmental Protection Agency (EPA), and is not required to have a permit under Georgia Code Section 12-8-66. Qualifying the Property under this VRP would not violate the terms and conditions under which the Division operates and administers remedial programs by delegation or by similar authorization from the EPA. There are no, and never have been any, outstanding liens filed against the Property pursuant to Georgia Code Sections 12-8-96 and 12-13-12.

1.3 PARTICIPANT ELIGIBILITY

SS is both the owner of the Property and the VRP applicant. Furthermore, SS is not in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the Director of the EPD.

1.4 HISTORIC DOCUMENTS

This VRPA is based on information contained in the following documents:

- Site Investigation Report (SIR) of October 1993 and revised January 1994 (GeoSciences, 1993),
- various letter reports on groundwater monitoring (GeoSciences),
- revised Site Assessment Report (SAR) of March 1998 (CRA, March 1998),
- Corrective Action Plan (CAP) of April 1998 (CRA, April 1998),
- Revised CAP of July 2005 (CRA, 2005),
- Supplemental Investigation Work Plan, (EMA October 2011),
- Focused Source Investigation and Proposed Remedial Approach Report (EMA, April 2011),
- Focused Source Investigation Report (EMA, June 2012), and
- Supplemental Investigation Report (EMA, July 2014).

1.4.1 Summary of Previous Investigations

Numerous investigations and assessments have been conducted at the Property to determine the source(s) of the groundwater contamination. In addition to the investigations performed to date, EMA reviewed historic aerial photographs (1939, 1950, 1958, 1964, 1971, 1986, 1993, 2005, and 2006) to identify other potential operational sources of the detected groundwater contamination and SS has researched previous manufacturing areas and services. Review of the aerial photographs and historic research did not reveal any definitive conclusions regarding source(s).

The investigations performed to date appear to eliminate all previously suspected operational sources including the fill material in the former landfill. The depth of the landfilled materials extends to approximately 6 feet to 14 feet bgs. The deeper depth is located at the furthest edges of the landfill from the Facility. Numerous soil gas studies and soil borings did not identify significant contamination above the shallow water table within the former landfill area (approximately 7 to 12 feet bgs based on location within the landfill) or at any of the other suspected source area. The source contamination appears to be limited

to the saturated soils within the water table and more precisely beneath the base of the landfill as substantiated by the membrane interface probe (MIP) vertical profiles and the saturated soil samples collected from the groundwater monitoring well MW-39 (MIP-11) location at depths of 21 to 35 feet bgs and the historical soil sampling data (EMA Focused Source Investigation Report, June 2012).

The groundwater contamination consisting predominantly of TCE beneath the former landfill was most likely caused by historic (pre-1970's when the Facility began to eliminate the use of TCE) disposal practices and prior to placement of the fill material. Review of historic aerial photographs indicates the development of the landfill sometime between 1950 and 1958 with potential drainage ditches observed in the 1971 aerial photo. The former landfill was closed (non-operational) in 1980.

Significant investigation and discussion of the potential historic source areas have been presented in the previously submitted Focused Source Investigation and Proposed Remedial Approach Report (EMA, April 2011), the Focused Source Investigation Report (EMA, June 2012), and the Supplemental Investigation Report (EMA, July 2014). Historic potential source areas are identified on Figure 2 and discussed further in Section 3.3.

1.4.2 Summary of Previous Remediation Activities

Corrective action for the Property has focused on the groundwater that has been impacted by chlorinated volatile organic compounds (VOCs): trichloroethene (TCE), 1,1,1-trichloroethane (TCA), and their associated degradation products (1,1-dichloroethane [1,1-DCA],1,1-dichloroethene [1,1-DCE], cis-1,2-dichloroethene [cis-DCE], and vinyl chloride). Remediation at the Property has included both pump and treat and chemical injection to enhance biodegradation. A more detailed summary of these two remediation programs is provided in the following sections.

1.4.2.1 Pump and Treat

The initial corrective action plan (CAP) approved by EPD in April 1998 was designed to reduce VOC concentrations in the groundwater and to provide a hydraulic barrier to control migration of the VOCs onto the western downgradient portion of the property by utilizing pump and treat technology. The initial remediation system began operation in September 1997 with one overburden extraction well (OEW-1) and was expanded to include two additional overburden extraction wells (OEW-2 and OEW-3) and two bedrock

extraction wells (BEW-1 and BEW-2) in January 2000. The five groundwater extraction wells (three overburden and two bedrock) were connected to an activated carbon filtration treatment system.

The total volume of water treated by this system from 1997 to 2005 (i.e., during interim and expanded phases) was approximately 12 million gallons. The volume of water treated by the expanded system since March 12, 2002, was 6.7 million gallons, with a weekly average of 61,000 gallons. Although the extraction system achieved its performance objective for hydraulic control, long-term operation of the system provided diminishing environmental benefits.

1.4.2.2 Chemical Injection

In November 2003, CRA conducted a pilot study for both in-situ chemical oxidation and in-situ enhanced biodegradation at select areas on the Property. The pilot injection test included the injection of potassium permanganate for oxidation of the VOCs detected in the MW-21 area, and sodium lactate for enhanced bioremediation of VOCs detected in the MW-18 area. Two temporary piezometers were also installed in the vicinity of MW-21 (TP-1 approximately 30 feet north of MW-21; TP-2 approximately 70 feet west of MW-21) and sampled before injection began. Performance sampling of these 4 wells was conducted in October 2003, January 2004, and March 2004, along with semiannual sampling in April 2004 and October 2004. The results of the performance sampling for the injection indicated that both methods, oxidation and enhanced bioremediation, would be successful in VOC reduction at the Property. Concurrent with the pilot study, CRA conducted an additional investigation of soil and groundwater in February 2005 to identify potential source areas.

A request to revise the remedial approach was submitted in 2005 following the successful bench and pilot scale testing. The corrective action approach of in-situ enhanced biodegradation (ISEB) promoting enhanced natural bio-degradation of the VOCs by supplementing the substrate with sodium lactate (microbial nutrients) into the groundwater beneath the Property was proposed as the primary remediation for the overburden and in-situ chemical oxidation (ISCO) was proposed for the bedrock, if required. The revised 2005 CAP was approved by EPD on July 21, 2005. An underground injection permit to implement the 2005 CAP was granted by EPD on September 29, 2005.

Implementation of the revised CAP began in late 2005. A 10,500-gallon solution of sodium lactate solution was injected into VOC impacted areas of the overburden groundwater beneath the Property by Direct Push Technology (DPT)

methods. Results of the 2005 injection work were mixed with obvious improvements in about half of the impacted overburden monitoring wells. By 2007, performance monitoring indicated that the original sodium lactate treatment had been exhausted. Subsequently, supplemental injection was performed in late 2007 with a 4,000-gallon solution of compatible organic substrate of soluble lactic acid and zero valent iron. The 2007 supplemental injection focused on areas with higher VOC concentrations.

Due to the limited reduction in the groundwater VOC concentrations across the Property, on December 1, 2010 EPD requested SS submit a revised CAP.

2.0 CURRENT PROPERTY CONDITIONS

2.1 GEOLOGICAL SETTING

2.1.1 Regional Geology

The Property is located within the Piedmont Physiographic Province. The regional subsurface geologic setting is characterized by a gradational weathering profile with depth from soil to partially weathered rock (PWR) to competent bedrock. Groundwater occurs under unconfined conditions where the potentiometric surface is generally similar to the ground surface topography. Along topographically low areas, the water table typically occurs within the soil to PWR portions of the weathering profile, whereas along topographically high areas, the water table often occurs in the underlying bedrock.

2.1.2 Property Geology

The following section discusses the Property geology as interpreted from historic sub-surface investigations and investigations by EMA.

The geologic units encountered during the investigations included:

i) fill materials;
ii) residuum/ saprolite; and
iii) soft amphibolite, biotite gneiss to hard granitic gneiss.

Fill Materials

Fill material is present within the limits of the inactive landfill and consists primarily of silty sands and clay intermixed with inert materials including wood, glass, brick, foundry castings, ceramic insulators, and fiberboard. Fill material was found to range from 6 feet to 12 feet in thickness. It appears that the base of the fill material occurs at approximately 6 to 8 feet below ground surface (bgs) nearest to the plant facility and increases to approximately 12 to 14 feet bgs at the northwest and western portions of the landfill. The landfill cover material consists of fill material (up to three feet thick) at the surface to gravel in the material storage area (northern portion) with limited vegetation occurring in the western portion.

In the borings associated with the investigation of March 2011, a sandy clay layer was encountered within and adjacent to the former landfill area at a depth of approximately 14 to 18 feet bgs.

The native soil encountered beneath this layer and the fill material appears to be consistent with the silts and days of the residuum/saprolite described below.

Residuum/Saprolite

A residuum/ saprolite unit was encountered throughout the Property including beneath the fill materials at the landfill. The residuum consists of chemically and physically weathered in-place bedrock that displays no recognizable features of the original bedrock structure. The underlying saprolite is similar to the residuum in its formation, but has been weathered to a lesser degree, thus retaining some original bedrock structural features. The residuum is described as a silty sand which grades to a clayey silt and finally to a silty clay. The saprolite is described as a fine to medium grained dense to very dense sand, which grades to partially weathered bedrock. The residuum/ saprolite unit ranges from approximately 8 feet thick at location MW-35 to approximately 95 feet thick at location MW-19.

Bedrock

The bedrock encountered below the residuum/saprolite unit at the Property consists mainly of soft to hard gray biotite granitic gneiss with bands of white quartz feldspar. This is consistent with the descriptions of the unnamed unit described as mica schist and biotite gneiss and designated "bgn" on Plate I of the Georgia Geological Survey Bulletin 96. Monitoring wells MW-31 and MW-32, which were completed in the shallow bedrock, encountered very soft, highly weathered fine grained amphibolite with some biotite granitic gneiss consistent with the Senoia Formation designated as "Se", also described in the Georgia Geological Survey Bulletin 96. It is possible that this portion of the study area may be within the contact zone of the Senoia Formation and the unnamed unit, explaining the variations in the rock types encountered.

The elevation of competent granitic gneiss bedrock ranges from approximately 835 feet NAVD at location MW-23 to 750 feet NAVD at location MW-37. The major difference in elevation indicates the presence of a complex bedrock formation beneath the Property. In addition, the top of competent bedrock appears to be bowl-shaped beneath the western portion of the Property and extending west beyond the fenced section of the Property.

The characteristics of the stratigraphic units encountered beneath the Property are illustrated on geologic cross section location map presented as Figure 3 and perpendicular geologic cross sections presented as Figures 4, 5, and 6.

2.1.3 Hydrogeology

The hydrostratigraphic units encountered at the Property consist of:

i) overburden unit (residuum/saprolite); and
ii) bedrock aquifer.

The hydrogeologic properties of these units are summarized in the subsections that follow:

Overburden Unit

The majority of the groundwater monitoring wells are constructed within the upper portions of the residuum unit at depths ranging from 13.5 feet bgs to approximately 35 feet bgs. These monitoring wells are constructed primarily in sandy, clayey silt. Groundwater is encountered at depths ranging from 3 feet bgs to 17 feet bgs in the overburden unit. Groundwater flow direction is typically in a west-northwest direction. The overall groundwater flow direction based on the July 1, 2014 groundwater level measurements included in Table 1 is to the west as illustrated on Figure 7.

Constant rate pumping test analysis of overburden monitoring well MW-9 indicated that the transmissivity of this unit is on the order of 21.8 feet/day. Hydraulic conductivity testing of select overburden monitoring wells conducted by CRA (CAP, 1998) indicate that the horizontal hydraulic conductivity of this unit is on the order of 10^{-4} cm/sec.

Bedrock Aquifer

The bedrock aquifer is a complex unit interconnected with the overlying surficial unit. The bedrock is encountered at depths ranging from 8 feet bgs at location MW-36 to 95 feet bgs at location MW-19. The saprolite interface is in direct contact with the severely weathered and both horizontally- and vertically-fractured upper bedrock, which comprises the semi-confined (delayed yield) nature of the bedrock aquifer. The overall groundwater flow direction based on the July 1, 2014 groundwater level measurements included in Table 2 is to the west as illustrated on Figure 8.

Hydraulic conductivity testing in the form of "slug tests" and pumping tests were conducted by CRA (CAP, 1998) on select bedrock monitoring wells. Hydraulic conductivities ranged from 2.2 x 104 cm/sec at monitoring well MW-16 to 1.43 x 10-6 cm/sec at monitoring well MW-27. Transmissivity, calculated from the constant rate-pumping test conducted on monitoring well MW-29, is estimated to be approximately 2.0 feet/day.

3.0 CONSTITUENTS OF CONCERN AND RISK REDUCTION STANDARDS

The soil and groundwater data collected since 1986 by various Property investigations has been utilized to identify the constituents of concern (COC) for soil and groundwater. HSRA Type 1 RRS for delineation of COC for evaluation of corrective action options for the soil have been derived. HSRA Type1, 3, and 4 RRS for groundwater have been derived for delineation of groundwater impacts.

3.1 CONSTITUENTS OF CONCERN

The historic COC for soil are presented in Tables 3 and 4, respectively. The COC for soil is limited to polychlorinated biphenyls (PCBs).

The historic COC for groundwater have included the following volatile organic compounds (VOC):

- 1,1,1 – Trichloroethane (1,1,1-TCA);
- 1,1,2-Trichloroethane (1,1,2-TCA);
- 1,1-Dichloroethane; (DCA)
- 1,1-Dichloroethene (DCE);
- acetone;
- carbon tetrachloride;
- chloroethane;
- chloroform;
- cis-1,2-dichloroethane (cis-1,2-DCE);
- methyl-tert butyl-ether (MTBE);
- toluene;
- trans-1,2-DCE;
- trichloroethane (TCE);
- tetrachloroethane (PCE); and
- vinyl chloride (VC).

It is important to note, that only the following COC from the list noted above exceeding the Type 4 RRS in various overburden monitoring zone wells are:

- 1,1,2-TCA;
- DCE;
- cis-1,2-DCE;
- TCE; and
- VC.

The above COC are primarily located in the MW-39, TP-1/TP-2, and TP-3 locations.

For the bedrock monitoring zone wells, the only COC exceeding the Type 4 RRS is TCE.

3.2 RISK REDUCTION STANDARDS

GEPD Rule 391-3-19-.07 allows for the determination of risk reduction standards (RRS) that are protective of human health. The HSRA Type 1 RRS for soil delineation have been derived for the COC and are presented in Table A-1 of Appendix C along with the supporting calculations. The HSRA Type 1 RRS for soils have been compared to the historical soil data previously submitted to EPD and presented in Tables 3 and 4 with exceedances noted. This data was used to prepare Figure 9 which provides an initial indication of the areas with soil impact.

The HSRA Type 1, 3, and 4 RRS for groundwater delineation were derived for the COC and are presented in Table A-2 of Appendix C along with the supporting calculations. The HSRA Type 4 RRS for groundwater has been compared to the historical groundwater data collected since 2010 and presented in Table 5 and 6 with exceedances noted. The July 2014 data was used to prepare Figures 10, 11, and 12 which show the estimated extent of the COC in groundwater relative to the HSRA Type 4 RRS.

3.3 EXTENT OF COC IN SOIL

The presence of COC in the soil has been historically investigated as part of the identification of the potential source(s) of the COC in groundwater. The detailed results of the respective investigations have been previously presented to EPD. In summary, soil impact due to VOCs, metals, cyanide, and PCBs have been investigated and delineated. The only COC remaining in soil in excess of the HSRA RRS Type 1 is PCBs which has been delineated as illustrated on Figure 9. The following presents a summary of the potential source areas, investigations and their respective findings.

3.3.1 Volatile Organic Compounds/Metals/Cyanide

Former Vapor Degreaser (TCA): no concentrations of TCA or other VOCs were detected at soil boring location B-5 at a depth of 5 feet below ground surface as

discussed in the Focused Source Investigation Report (EMA, June 2012) (See Appendix D-1);

Former Vapor Degreaser Condensate Piping (TCA): no concentrations of TCA or other VOCs were detected at soil boring locations BH-1 and BH-2 or evidence of elevated VOC vapors at MIP locations MIP-8 and MIP-21 as discussed in the Focused Source Investigation Report (EMA, June 2012)) (See Appendix D-2);

Former Sludge Drying Bed (TCA/Metals/Cyanide): No metals or cyanide above historic or current notification concentrations (NC) were detected as part of this process closure in 1985 (See Appendix D-3). No VOCs above the Type 1 RRS were detected in soil borings B-4, B-23, B-24, B-25, and B-26 as part of the groundwater monitoring well installations by GeoSciences in 1994 as discussed in the Focused Source Investigation Report (EMA, June 2012) (See Appendix D-1). A groundwater sample collected on February 2, 2012 from monitoring well MW-3 for the analysis of metals and total cyanide only detected copper at a concentration of 0.0166 mg/L just slightly above the detection limit of 0.01 mg/L which is well below the NC as discussed in the Focused Source Investigation Report (EMA, June 2012). This area was later used as a less than 90 day hazardous waste storage area and decommissioned in October 2013. The area was a covered concrete base and bermed area. At the time of decommissioning the concrete was observed to be in good condition with no major cracks. An investigation of this area did not identify any VOCs. Select metals were detected in shallow soil above the HSRA notification concentrations (NC). These soils were removed and disposed off-site at a permitted facility within 30 days of discovery. Confirmatory soil sampling indicated concentrations below the NC. Groundwater samples collected in November 2013 from adjacent monitoring wells MW-2, MW-3, and MW-4 are free from detectable concentrations of select total metals (See Appendix D-4). Groundwater samples collected from adjacent monitoring well MW-4 for the analysis of VOCs during the semi-annual groundwater monitoring events have not detected any VOCs.

Former Landfill (TCE / TCA): The depth of fill within this landfill is approximately 6 to 15 feet bgs. The landfill reportedly received inert waste and debris such as foundry sand, off-specification metal castings, miscellaneous scrap metal, scrap wood, etc. prior to closure in 1980. Soil samples collected of the fill material, the native soil immediately beneath the fill material, and soil vapor analyses conducted on the shallow fill did not identify any significant VOC impact in the fill or at the fill/native soil interface.

The historic investigations associated with the fill material have not indicated that it is a significant source of VOC contamination despite the high levels of VOCs detected in the underlying groundwater within the boundaries of the landfill. No detected VOCs in the soil samples collected by GeoSciences (B-1, B-2, B-3, and B-6) or CRA (BH-1 through BH-7, inclusive) exceed the Type 1 RRS as discussed in the Focused Source Investigation Report (EMA, June 2012)) (See Appendix D-1).

Drum Storage Areas (TCE/TCA): Both the former east side drum storage area and the former west side drum storage areas have been investigated. No significant concentrations of VOCs were detected during the most recent April 2014 soil investigation activity as discussed in the Supplemental Investigation Report (EMA, July 2014)) (See Appendix D-5). No detected VOCs exceeded the Type 1 RRS.

3.3.2 Polychlorinated Biphenyls`

Former Landfill; PCB's have been historically detected in shallow soils in certain areas of the former landfill to a depth of approximately 3 ft bgs. SS reviewed historical catalogs for the types of equipment and ancillary use from the 1930's. Although SS's website discusses the repair of electric motors and transformers, this work was conducted at its prior Birmingham, Alabama location and was not conducted at the Property. The catalogs of equipment serviced at that time indicate the use of mineral oil equipment. No known use of PCB-containing oil other than historic transformers for on-site power distribution has been identified. No information has been identified that explains the presence of PCBs. Additional delineation work was performed in April 2014. Historic soil sample location SL-3 at a depth of 6-inches (GeoScience, 1994) and current soil sample location SB-07 at a depth of 5-7 feet bgs exceed the Type 1 RRS for PCBs at concentrations of 3.91 mg/kg and 31 mg/kg, respectively. These locations have been delineated to Type 1 RRS both horizontally and vertically. Figure 9 presents both historic and current PCB soil sample locations and data. Table 3 presents the soil sample data.

Former Beaver Pond: PCB's have been detected in the soils on the western portion of the Property and within the footprint of the former Beaver Pond. The presence of the PCB's can only be explained through sediment transport from an upgradient area. As the former Beaver Pond expanded due to the beaver dams and the area flooded within Little Bear Creek, sediment was further transported. Only soil sample location SED-4 at a depth of 6-inches

and 1-foot exceeds the Type 1 RRS for PCBs at a concentration of 1.99 mg/kg and 13.2 mg/kg, respectively. This location has been delineated both horizontally and vertically. Figure 9 presents both historic and current PCB soil sample locations and data. Table 4 presents the soil sample data.

3.4 EXTENT OF COC IN GROUNDWATER

The presence of COC in the groundwater has been historically investigated since 1986. The detailed results of the respective investigations have been previously presented to EPD. In summary, groundwater impact due to VOCs, metals, cyanide, and PCBs have been investigated and delineated where found. The only COC remaining in groundwater are select VOCs which have been delineated as illustrated on Figures 10, 11 and 12. The following presents a summary of the potential source areas, investigations and their respective findings.

3.4.1 Overburden

In accordance with the EPD approved 2005 CAP, groundwater performance monitoring is conducted at the Property on a semi-annual basis to measure the effectiveness of the injections. Groundwater samples are collected from the Property monitoring network of 21 overburden monitoring wells and 6 overburden piezometers and 18 bedrock wells. Groundwater monitoring activities have been conducted at the Property for the past 28 years and the semiannual sampling activities have been conducted for the past nine years.

Groundwater flow within the overburden zone is depicted as a northwest to westerly flow direction with a hydraulic gradient of approximately 0.012 foot/foot as presented in the Semiannual Groundwater Monitoring Reports. Utilizing the Darcy equation, the average hydraulic conductivity of 3.4E-04 cm/sec (GeoSciences, Inc. Site Assessment Report), the approximate hydraulic gradient of 0.011 ft/ft, and an assumed effective porosity of 0.3, the approximate horizontal linear velocity of the overburden is 1.36E-05 cm/sec.

Based on the data collected from the 27 overburden well locations in July 2014, 11 locations have historically been reported with no detections of VOCs (MW-4, MW-7, MW-8, MW-11, MW-12, MW-15, MW-17, MW-22, MW-30, MW-35, and TP-5). Sixteen of the overburden monitoring well locations (MW-9, MW-13, MW-18, MW-21, MW-39, MW-40, MW-41, MW-42, OEW 1, OEW-2, OEW-3, TP-1, TP-2, TP-3, TP-4, and TP-6) have concentrations of VOCs, (1,1,2-TCA, DCE, cis-

1,2-DCE, TCE, and VC) that exceed the applicable Type 4 RRS for groundwater. Figure 10 illustrates the concentrations of TCE, the primary groundwater COC in the overburden groundwater monitoring wells in the vicinity of the former landfill footprint and across the Property. Table 5 presents the historic and current overburden groundwater analytical data summary.

The horizontal extent of the overburden groundwater contamination is defined by downgradient wells MW-8, MW-17, MW-30 and MW-35 and side-gradient wells MW-7 and MW-12 which were free from detectable concentrations of the COCs. The current downgradient edge of the contaminant plume is 1,475 feet from the SS property boundary to the northwest to west.

For 1,1,1-TCA, this COC was given consideration as a potential separate COC source area as observed during historic investigations of the former east side drum storage area illustrated on Figure 2. 1,1,1-TCA is predominant in the area of monitoring well location TP-4 extending west to monitoring well TP-3. Current groundwater concentrations of TCA at these locations do not exceed the Type 4 RRS standard of 13,600 µg/L. Figure 11 illustrates the current concentrations of TCA. Table 4 presents the historic and current groundwater analytical data summary.

3.4.2 Bedrock

Groundwater flow within the bedrock is depicted generally as a westerly flow direction with a hydraulic gradient of approximately 0.012 foot/foot as presented in the Semiannual Groundwater Monitoring Reports. Groundwater flow velocity has not been evaluated in the bedrock aquifer due to the difficulty in determining fracture porosity.

Based on the data collected from the 17 bedrock well locations, 12 locations have historically been reported with no detections of chlorinated VOCs (MW-20, MW 23, MW-24, MW-26, MW-27, MW-29, MW-31, MW-36, MW-37, MW-38, BEW-1, and BEW-2). Note that methyl tert butyl ether (MTBE), a non-chlorinated VOC, was detected at relatively low concentrations at MW-37 and MW-38. The concentrations of MTBE detected at these locations do not exceed the Type 4 RRS for MTBE.

Five of the bedrock groundwater monitoring wells (MW-19, MW-28, MW-32, MW-33, and MW-34) have concentrations of chlorinated VOCs, specifically TCE that exceed the Type 4 RRS for groundwater of 5.4 µg/L. Figure 12 illustrates the concentrations of TCE, the primary groundwater COC in the overburden

groundwater monitoring wells in the vicinity of the former landfill footprint and across the Property. Table 6 presents the historic and current bedrock groundwater analytical data summary.

The horizontal extent of the bedrock groundwater VOC contamination is defined by downgradient wells MW-36, MW-37, and MW-38 which were free from detectable levels of the COC. The vertical extent of the groundwater contamination beneath the former landfill is defined by monitoring wells MW-24 and MW-25 and further west by extraction wells BEW-1 and BEW-2. It must be noted that the Type 4 RRS for TCE is slightly exceeded at intermediate depth bedrock monitoring wells MW-19, MW-28, MW-33 and MW-34 as presented in Table 6. Review of the stratigraphic and instrumentation logs suggests that the contamination is limited to the upper portion of the bedrock zone in these areas.

3.5 EXTENT OF COC IN SURFACE WATER

VOCs were historically detected in 1992 in various surface water samples collected along Little Bear Creek. Since PCBs were also detected in sediment along Little Bear Creek, surface water samples were collected from select locations for PCB analysis. Based on the results of four surface water samples collected on January 12, 2012 for the analysis of VOCs and PCBs, the surface water within Little Bear Creek is free from detectable levels of VOC COC and PCB contamination. The surface water locations are presented on Figure 13. A summary of the data is presented in Table 7.

3.6 EXTENT OF COC IN SEDIMENT

VOCs and PCBs were historically detected in various sediment samples collected along Little Bear Creek during sampling activities completed in 1994. Sediment samples were re-collected along Little Bear Creek in 2012 to determine the current impact on the creek. Historically, beavers created dams along Little Bear Creek forming a small pond (Former Beaver Pond) as illustrated on Figure 2. During periods of precipitation, this area would occasionally expand due to flooding. In late 2012, the beavers and the dams were removed thus allowing the pond to naturally drain. It is important to note that only the sample locations SED-1, SED-2, SED-3, SED-7, and SED-8 are actual sediment sample locations. All other samples collected in the vicinity of the former Beaver Pond are representative of soil. In addition, the on-site Fire Protection Pond was also investigated for PCB impact to sediment at locations SED-5 and SED-6. The

sediment sample locations are illustrated on Figure 14. Table 8 presents the analytical summary.

Little Bear Creek

Sediment samples for the analysis of VOCs were collected at locations SED-1, SED-2, and SED-3. Sediment samples for the analysis of PCBs were collected at locations SED-1, SED-2, SED-3, SED-7, and SED-8. Samples were collected from the six-inch depth interval unless contamination was detected. Additional samples were collected at the 1-foot and 3-foot depth intervals where required for delineation purposes.

For the VOCs, cis-1,2 DCE (8.3 µg/kg) and TCE (4.8 µg/kg) were detected at sediment sample location SED-2. The detected TCE is below the applicable Freshwater Sediment Benchmark Standard[1] and no standard exists for cis-1,2-DCE. Acetone was reported in the samples collected at location SED-3 (downgradient of the former landfill); however, this is a common lab contaminant and most likely originated from the laboratory. No VOCs were reported in the sample collected from location SED-1 (upgradient). VOCs in sediment do not extend beyond location SED-3 based on the data collected at this location.

For the PCBs, none were detected at location SED-1. Select individual Arochlors were detected at sediment sample locations SED-2 and SED-3 that exceeded the Freshwater Sediment Benchmark Standard for total PCBs (59.8 µg/kg). No PCBs were detected at downgradient locations SED-7 and SED-8.

Fire Protection Pond

Historic sample collection data indicates that the sediment within this pond is free of VOC contamination. Historical data for PCB contamination within the Fire Protection Pond does not exist, therefore, as requested by EPD, two sediment samples were collected for the analysis of PCBs in 2012. One sample (SED-5) was located at the south end of the pond where the storm water drainage pipe from the substation area discharges, the second location (SED-6) was located near the pond overflow. These samples were free from detectable levels of PCBs.

[1] Freshwater Sediment Screening Benchmarks, EPA Region III, May 28, 2014

4.0 PRELIMINARY CONCEPTUAL SITE MODEL

The preliminary Conceptual Site Model (CSM) is intended to establish a common knowledge base about the Property and its environmental condition, to facilitate the development of basic remedial action objectives appropriate for the Property, and to allow an informed decision regarding possible remedial action measures for the Property. This section discusses the potential receptors and exposure pathways associated with the COC.

A preliminary CSM was developed based on the available Property information. A discussion of the CSM components is presented below, and the CSM is presented as Figure 15.

4.1 POTENTIAL EXPOSURE PATHWAYS

The potential exposure pathways were determined for the Property. These pathways include:

- Potential exposure to VOC COC in the soil via ingestion, inhalation, or direct contact.
- Potential exposure to VOC COC in groundwater via ingestion, dermal contact, or vapor intrusion.
- COC in the groundwater migrating to surface water and/or surface soil migrating to surface water and/or sediment (erosion).

It was concluded that the following exposure pathways are currently incomplete on the Property:

- Exposure to COC in soil to industrial workers and trespassers.
- Vapor intrusion from the COC is considered incomplete as there are no enclosed structures over the groundwater contaminant plume or in the downgradient groundwater flow direction (west).

Each of these pathways is evaluated in the following subsections. Based on the current and anticipated future land use, the Property will remain industrial.

4.1.1 Soil Ingestion, Inhalation, or Direct Contact

The soil exposure pathway to industrial workers and trespassers is potentially incomplete for VOC COC since predominantly all surface and subsurface soil

VOC COC concentrations across the Property are below the applicable Type 1 RRS and therefore do not pose a risk to human health by these pathways. The soil exposure pathway to industrial workers and trespassers is potentially complete for surface and subsurface soil PCB COC. However, this exposure pathway is minimal since only a few soil sampling locations exhibited PCB COC concentrations above the applicable Type 1 RRS.

4.1.2 Groundwater Ingestion, Inhalation, Direct Contact, or Vapor Intrusion

The on-site groundwater exposure pathway for future direct contact by construction workers during on-site excavation activities is potentially complete. The off-site groundwater exposure pathway is currently incomplete since the VOC COC are limited to the Property and no drinking water or irrigation wells exist on the property; however, future off-site migration could potentially complete this pathway so this pathway has been defined as potentially complete. Vapor intrusion from the VOC COC is considered incomplete as there are no enclosed structures over the groundwater contaminant plume or in the downgradient groundwater flow direction (west). Based on the soil vapor survey completed by CRA in 1997, all soil vapor survey points at or near the Property buildings were non-detect for organic vapors.

4.1.3 Future Contaminant Migration to Sediment and/or Surface Water

Historical impacts to surface water and sediment within Little Bear Creek were noted in the early assessments for COC. However, recent investigation results indicate that surface soils across the Property do not contain levels of VOC COC above HSRA reporting limits and therefore do not pose a current or future risk to surface water or sediment PCB COC were however detected in the sediment within Little Bear Creek located on the Property. In addition, select surface soil samples in the landfill, the former Beaver Pond, and adjacent to the Little Bear Creek are impacted with PCB COC that exceed the Type 1 RRS for this parameter and therefore the pathway for future impact to the sediment via potential erosion should be considered potentially complete.

4.2 HUMAN RECEPTORS

The current and future use of the Property is industrial. Therefore, current and future on-Site receptors to impacted soils and groundwater are industrial and construction workers. In addition, potential future receptors include off-site residents that might contact impacted groundwater if off-site migration occurs. It is important to recognize that the current edge of the contaminant plume is 1,475 feet upgradient from the SS property boundary and the plume is stable and

not migrating. Based on the drinking water survey completed by EPD in 1988, the use of all previously impacted City of Hampton drinking water supply wells have been discontinued (It should be noted that it was not confirmed that SS was the source of this contamination based on groundwater flow direction). All surrounding residents obtain potable water from Henry County. Additionally there is local zoning which prohibits the installation of wells without prior approval from the city of Hampton. This ordinance was enacted in 1993. Since that period, no water well permits have been filed and approved by the City of Hampton.

4.3 ECOLOGICAL RECEPTORS

Sediment within the first 300 feet of Little Bear Creek that is located on the Property was reported with levels of PCB COC above the Freshwater Sediment Screening Benchmark concentrations; however, the PCB COC sediment contamination does not extend off-Site. An ecological risk assessment is proposed to determine if remediation is required to protect this receptor.

The PCB COC detected in the surface soils of the landfill, in the areas within the former Beaver Pond, and adjacent to Little Bear Creek may migrate via erosion to the sediment and surface water in Little Bear Creek. However, impact would be expected to be minimal since the PCB COC concentrations are predominantly below the Type 1 RRS. No VOCs were identified in the surface soils based on recent investigations and therefore do not pose a risk to the ecological receptors.

4.4 FATE AND TRANSPORT MODELING

Fate and transport modeling will be conducted, if required, to support a HSRA Type 5 for select groundwater VOC COC that exceed the Type 4 RRS. The HSRA Type I RRS's will be the off-site standards for groundwater VOC COC at the point of exposure (POE). Since all downgradient properties within 1,000 feet from the Property line are on public water, the POE has artificially been set to the Property line. The point of demonstration well will be existing on-site monitoring well MW-17 for the overburden and for the bedrock, existing monitoring well MW-36.

Fate and transport of the VOC COC exceeding the HSRA Type 1 RRS in the overburden groundwater unit will be conducted, if required, using an USEPA accepted fate and transport model. The model will incorporate all existing and newly collected Property information concerning hydrogeological and

contaminant information. Data will be used to construct a calibration model from which the following models would be run:

- a model to determine the maximum distance the plume is expected to travel;
- a model to determine when the plume begins to retreat; and
- a model to determine the maximum groundwater VOC COC concentrations at the source at which the HSRA Type I RRS is not exceeded at the POE (downgradient property line).

Modeling in the bedrock is not proposed at this time due to the potential need for the following additional activities:

- install an additional bedrock monitoring well(s);
- perform downhole camera work on multiple wells;
- perform dye tracer studies;
- fracture trace analysis; and
- perform multiple long term pumping tests.

4.5 CLEANUP STANDARDS

The groundwater cleanup standards for the VOC COC will be a combination of HSRA Type 1, 3, 4 RRS, or if not practical, the HSRA Type 5 RRS. The final groundwater cleanup standards will be defined following initial groundwater remediation activities of select areas within the overburden unit.

The soil cleanup standards for the PCB COC will be the HSRA Type 1 or Type 4 RRS for everywhere except for the landfill which will be capped and therefore fall under a HSRA Type 5 RRS classification.

The sediment cleanup standards will be determined by conducting a screening level or baseline Ecological Risk Assessment (SLERA or BERA) for the area downgradient of the proposed 300 feet of piped creek enclosure discussed in Section 5.1.2.

5.0 PROPOSED REMEDIATION PLAN

It is SS's objective to implement this VRP to satisfy the requirements of the Georgia Voluntary Remediation Program Act for the preparation of a VRP Compliance Status Report.

5.1 REMEDIAL OPTIONS

EMA is proposing a combination of the following remedial actions to meet the objective for the Property:

Soil

- Removal of soil exceeding the Type 1 or Type 4 RRS for PCBs at location SED-4 and confirmatory sampling; and
- Partial capping of the existing landfill.

Groundwater

- Limited in-situ chemical oxidation (ISCO);
- Monitored natural attenuation/Groundwater Monitoring; and
- Future land use and groundwater restriction covenants.

Sediment

- Isolation of a portion of Little Bear Creek; and
- Ecological risk assessment to determine remedial options for the exposed portion of Little Bear Creek

5.1.1 Removal of Soil

The soil exceeding the Type 1 or Type 4 RRS for PCB COC at location SED-4 near the former Beaver Pond will be excavated and confirmatory soil samples will be collected to confirm that existing soil meets the Type 1 or Type 4 RRS. The soil will be placed on the former landfill and capped as described below.

5.1.2 Installation of a Cap over the Existing Landfill

To prevent future surface soil migration of PCB COC contamination, industrial worker or trespasser contact with these soils, and minimize VOC COC migration within the groundwater, a permanent cap is proposed for the northern portion of

the landfill area adjacent to Little Bear Creek. The objective of the cap would be to minimize rainfall infiltration and run-off. The permanent cap design will be submitted to EPD at a later date but it will incorporate a combination of reinforced concrete slab (alternatively, an asphalt cap may be installed over a geotextile liner) and vegetated soil. The concrete slab would be 4-inches thick with wire fabric reinforcement.

The concrete area of the cap will be physically constructed to serve the dual purpose of site cap and lay down yard for SS. The cap will be designed to provide adequate drainage and minimize erosion. Vegetative soil would be placed on the sloped areas not conducive to physical use. A HSRA Type 5 RRS for soil COC would be met for this area. The proposed cap area of the former landfill is illustrated on Figure 16.

5.1.3 Limited ISCO Groundwater Treatment

The use of in-situ chemical oxidation (ISCO) reagents such as sodium persulfate will be implemented at select suspected overburden groundwater source area locations to reduce the VOC COC concentrations. Treatment in select areas is proposed due to the high concentrations observed at monitoring well locations MW-39, TP-1/TP-2, and potentially TP-4. Oxidation works directly on the contaminants by immediate dechlorination upon contact (residuals are carbon dioxide and water). The chemical oxidant proposed for this ISCO application will be formed by combining PeroxyChem (formerly FMC Global Peroxygens) Klozur® sodium persulfate reagent with an activator (hydrogen peroxide) to form powerful sulfate and hydroxyl radicals that can be injected into the aquifer within the source zone areas at the Property. The expected life of the sulfate radical in the subsurface is 2 or 3 weeks following injection. Performance monitoring will be evaluated through quarterly groundwater sampling.

The higher levels of the VOC COC could be reduced by ISCO at these select locations and potentially reduce the source concentrations migrating to the bedrock zone.

5.1.4 Monitored Natural Attenuation / Groundwater Monitoring

Subsequent to the ISCO injections, select groundwater monitoring wells will be sampled and a long term monitoring program implemented which will include monitored natural attenuation parameters as well as the groundwater

COC. The monitoring program details will be submitted in the updated CSM and final remediation plan.

5.1.5 Future Land Use and Groundwater Restriction Covenants

Based on the limited exposure pathways present on the Property, institutional controls may be utilized at the Property to eliminate any future exposure pathways for on-site exposure. Where institutional controls are implemented, the environmental covenants will conform with the Uniform Environmental Covenants Act (O.C.G.A. § 44-16-1). The City of Hampton currently has a zoning prohibition (Ord. No. 77, § 2.01, 10-12-93) requiring approval prior to digging, drilling, or boring a well for water which was enacted in 1993. The City of Hampton has not approved a well since the inception of the ordinance.

5.1.6 Isolation of a Portion of Little Bear Creek

To minimize future migration of COC into Little Bear Creek and isolate the current PCB COC sediment contamination from potential ecological receptors, SS will install a 300 ft. extension of the existing corrugated pipe that currently encloses Little Bear Creek along a portion of the Property. The proposed extension area is illustrated on Figure 16. The area has historically been identified as a wetlands so approval by the Army Corp of Engineers may be required.

5.1.7 Ecological Risk Assessment

A screening-level ecological risk assessment (SLERA) or a baseline ecological risk assessment will be performed along Little Bear Creek. The assessment will be performed to determine if remediation is required

5.2 COMPLETION OF THE VRP

The specific actions required for completion of the VRP are dependant on the remedial options ultimately selected. This will be discussed in the updated CSM and final remediation plan.

5.3 COST ESTIMATE

A Voluntary Remediation Plan Cost Estimate and date for submitting a financial assurance instrument will be submitted with the first VRP Semiannual Status Report.

5.4 PROJECTED MILESTONE SCHEDULE

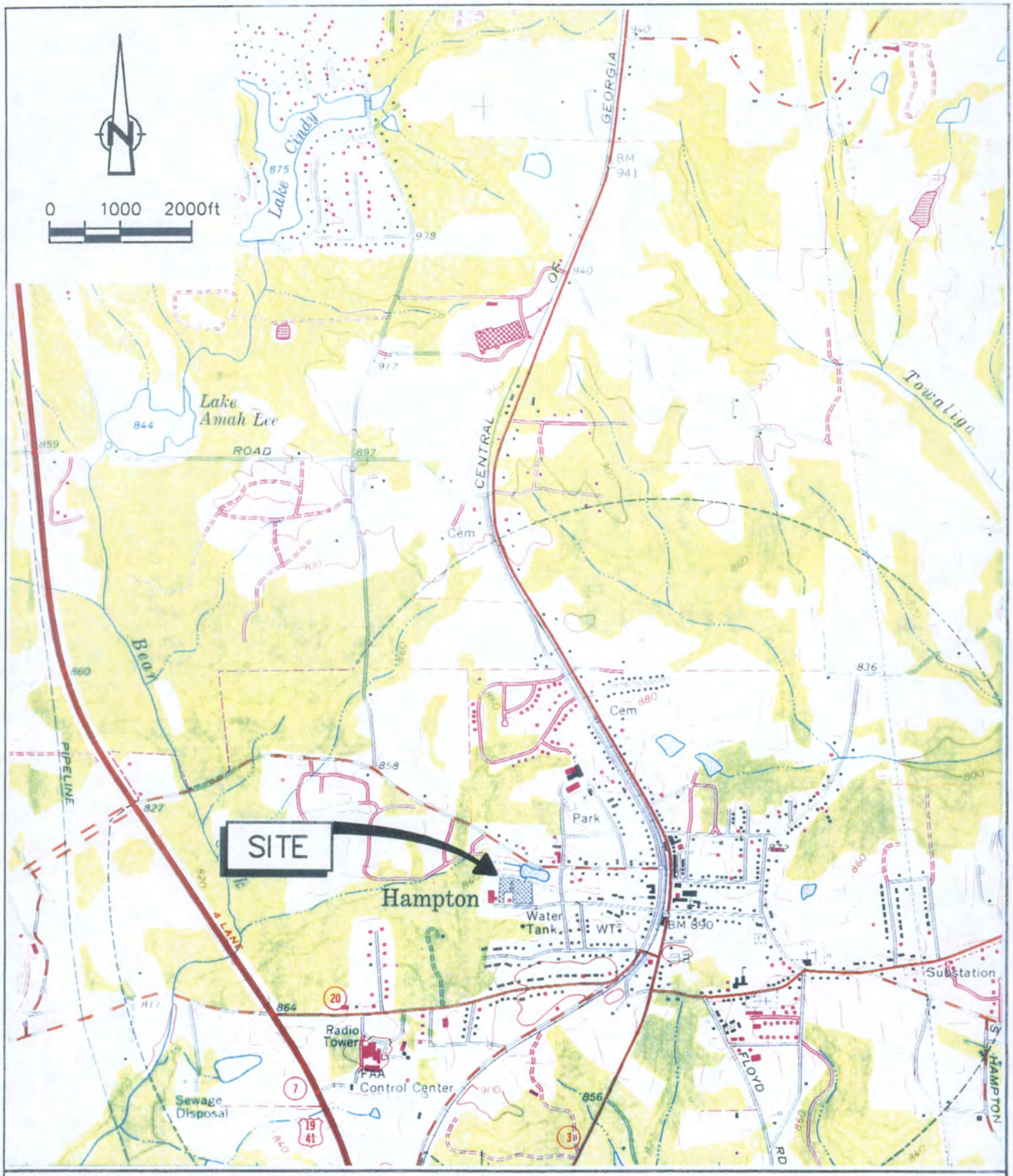
The screening level or baseline ecological risk assessment (SLERA or BERA) will be completed within the first three months following receipt of the approval of this Property into the VRP. An updated CSM along with the results of the modeling, if applicable, and development of the RRS will be submitted within six months following corrective actions. A Projected Milestone Schedule, showing timelines for the following items, is included in Appendix E.

- SLERA and BERA completion
- Remedial Activities
- File Groundwater Restriction and future Land-Use Covenant
- Semi-Annual Progress Report Submittal
- Updated CSM Submittal with Final Remediation Plan
- VRP Compliance Status Report

5.5 VRP COMPLIANCE STATUS REPORT

Following implementation and completion of the work described in this application, a VRP Compliance Status Report will be submitted to EPD for approval which will also allow the Consent Order to be closed and the removal of the Property from the HSI. The VPR Compliance Status Report will be submitted in accordance with the requirements of the Act.

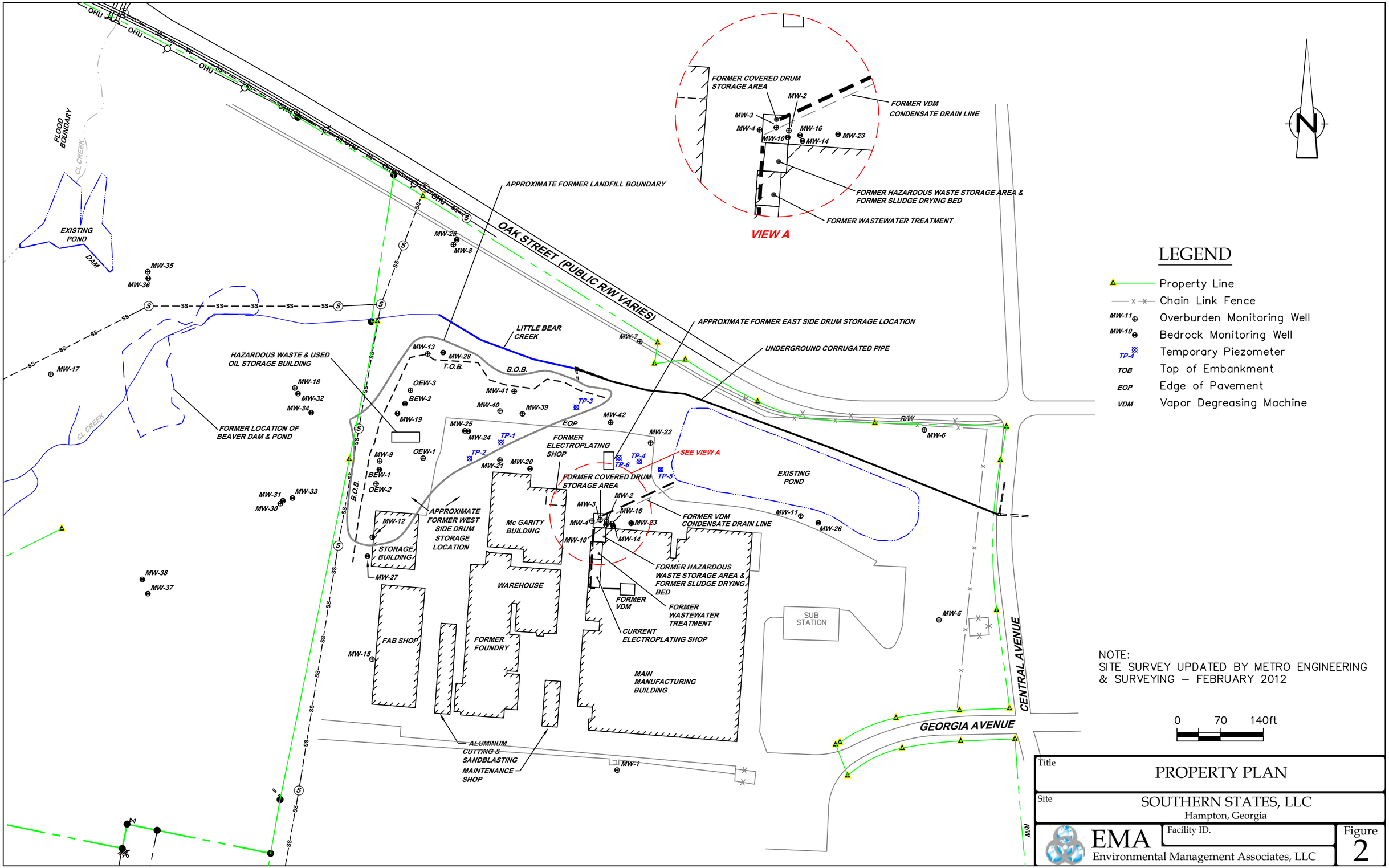
FIGURES



SOURCE: USGS QUADRANGLE;
HAMPTON, GEORGIA

figure 1

LOCATION MAP
SOUTHERN STATES SITE
Hampton, Georgia



LEGEND

- Property Line
- Chain Link Fence
- MW-11 Overburden Monitoring Well
- MW-10 Bedrock Monitoring Well
- TP-4 Temporary Piezometer
- TOB Top of Embankment
- EOP Edge of Pavement
- VDM Vapor Degreasing Machine

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012

0 70 140ft

Title: PROPERTY PLAN

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA Environmental Management Associates, LLC

Facility ID.

Figure 2

OAK STREET (PUBLIC R/W VARIES)

OHU

SS

FLOOD BOUNDARY

CL CREEK

EXISTING POND

DAM

MW-35

MW-36

MW-17

MW-18

MW-32

MW-34

A

B

C

A'

B'

C'

MW-28

MW-8

MW-13

T.O.B.

B.O.B.

OEW-3

BEW-2

MW-41

MW-40

MW-39

TP-3

MW-42

MW-19

MW-25

MW-24

TP-1

TP-2

MW-21

MW-20

EOP

MW-22

OEW-1

MW-9

BEW-1

OEW-2

MW-31

MW-33

MW-30

MW-12

MW-27

MW-38

MW-37

MW-15

MW-7

MW-6

R/W

MW-5

MW-3

MW-2

MW-16

MW-23

MW-4

MW-10

MW-14

MW-11

MW-26

TP-4

TP-6

TP-5

MW-1

APPROXIMATE FORMER LANDFILL BOUNDARY

LITTLE BEAR CREEK

APPROXIMATE FORMER EAST SIDE DRUM STORAGE LOCATION

UNDERGROUND CORRUGATED PIPE

HAZARDOUS WASTE & USED OIL STORAGE BUILDING

FORMER LOCATION OF BEAVER DAM & POND

FORMER ELECTROPLATING SHOP

FORMER COVERED DRUM STORAGE AREA

FORMER VDM CONDENSATE DRAIN LINE

EXISTING POND

APPROXIMATE FORMER WEST SIDE DRUM STORAGE LOCATION

Mc GARITY BUILDING

STORAGE BUILDING

FORMER HAZARDOUS WASTE STORAGE AREA & FORMER SLUDGE DRYING BED

WAREHOUSE

FORMER VDM

FORMER WASTEWATER TREATMENT

CURRENT ELECTROPLATING SHOP

FAB SHOP

FORMER FOUNDRY

MAIN MANUFACTURING BUILDING

SUB STATION

ALUMINUM CUTTING & SANDBLASTING MAINTENANCE SHOP

CENTRAL AVENUE

GEORGIA AVENUE

N

LEGEND

- Property Line
- Chain Link Fence
- MW-11 Overburden Monitoring Well
- MW-10 Bedrock Monitoring Well
- TP-4 Temporary Piezometer
- TOB Top of Embankment
- EOP Edge of Pavement
- VDM Vapor Degreasing Machine

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012

0 70 140ft

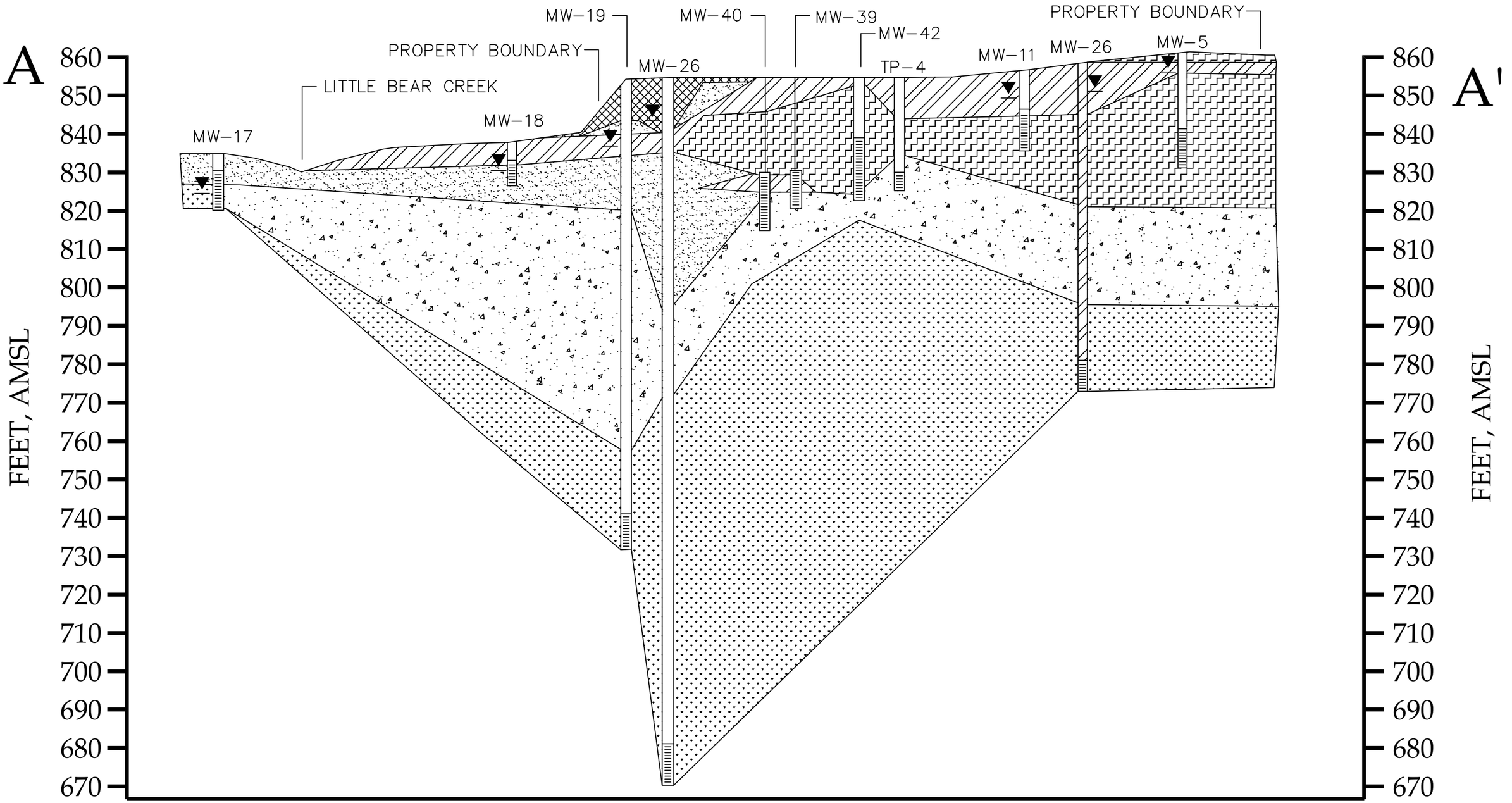
Title: CROSS-SECTION LOCATION MAP

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA
Environmental Management Associates, LLC

Facility ID.

Figure 3



LEGEND

- FILL MATERIAL
- Silty Clay – Sandy Clay (CL)
- Sandy Silt–Clayey Silt (ML–MH)
- Silty Sand (SM), Sand (SP)
- Saprolite
- Granitic Gneiss

25FT
12.5
0
VERTICAL SCALE

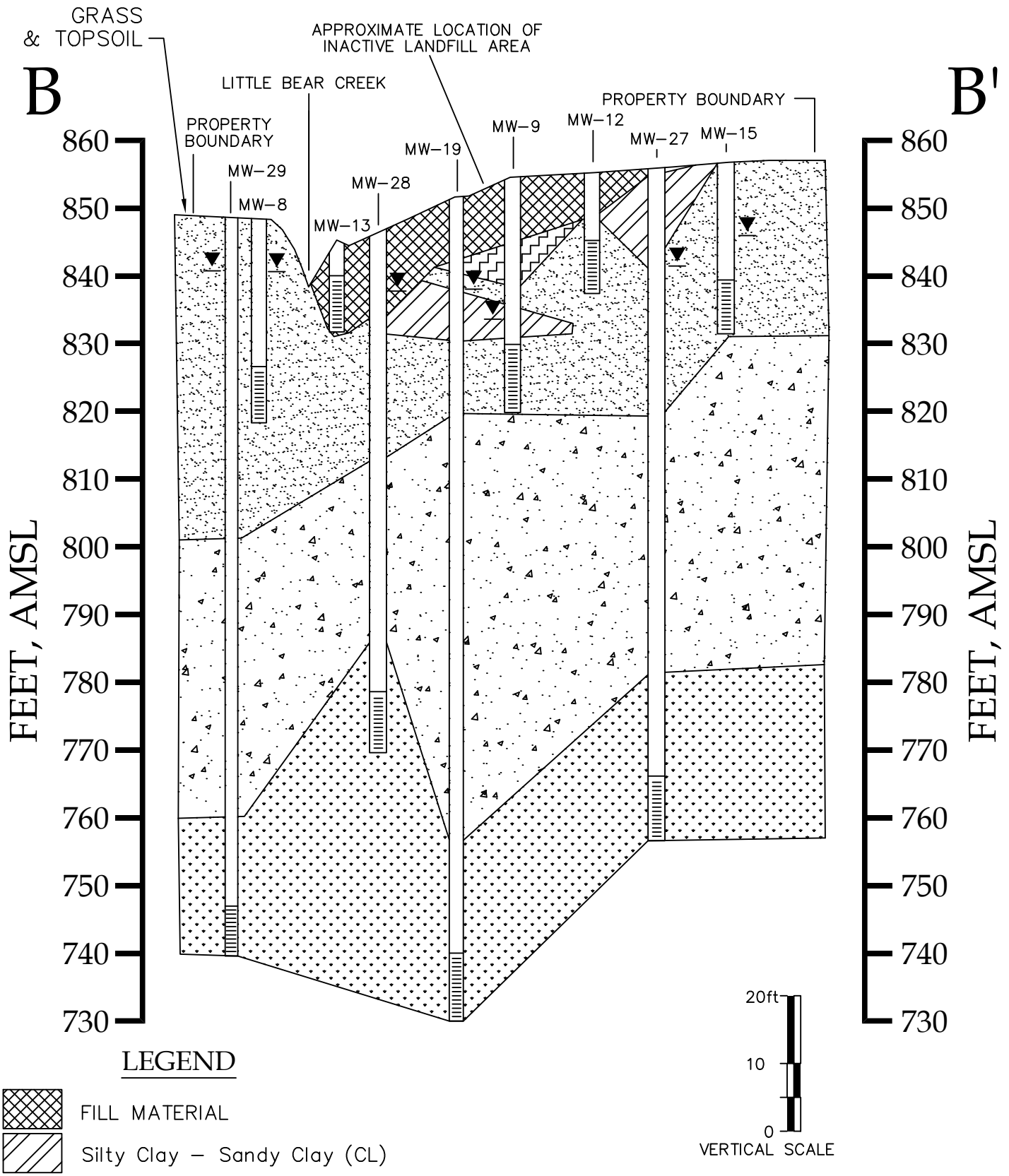
Title: CROSS SECTION A-A'

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA
Environmental Management Associates, LLC

Facility ID.

Figure 4



LEGEND

- FILL MATERIAL
- Silty Clay – Sandy Clay (CL)
- Silty Sand (SM), Sand (SP)
- Sandy Silt–Clayey Silt (ML–MH)
- Saprolite
- Granitic Gneiss

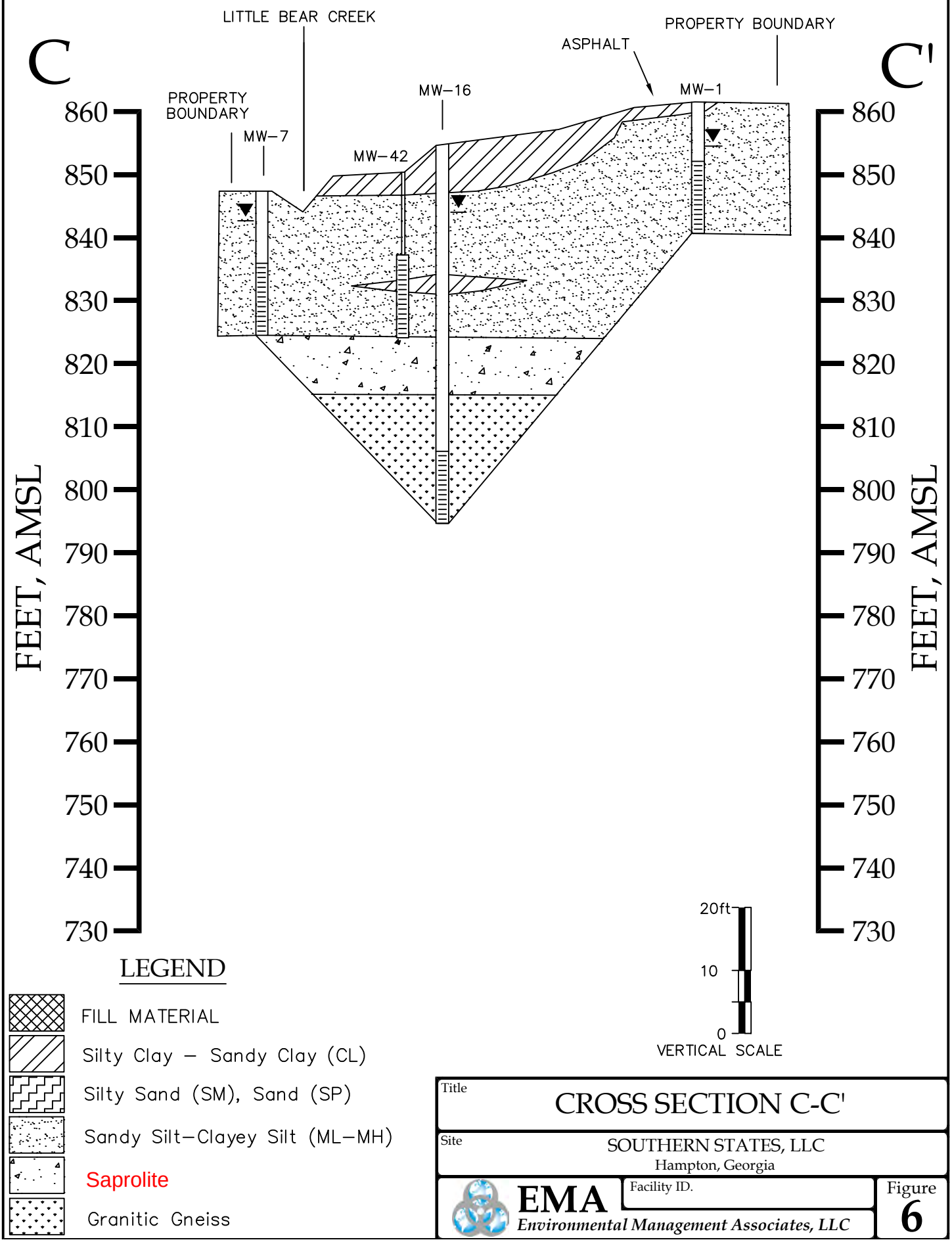
Title: CROSS SECTION B-B'

Site: SOUTHERN STATES, LLC
Hampton, Georgia

Facility ID.

EMA
Environmental Management Associates, LLC

Figure 5



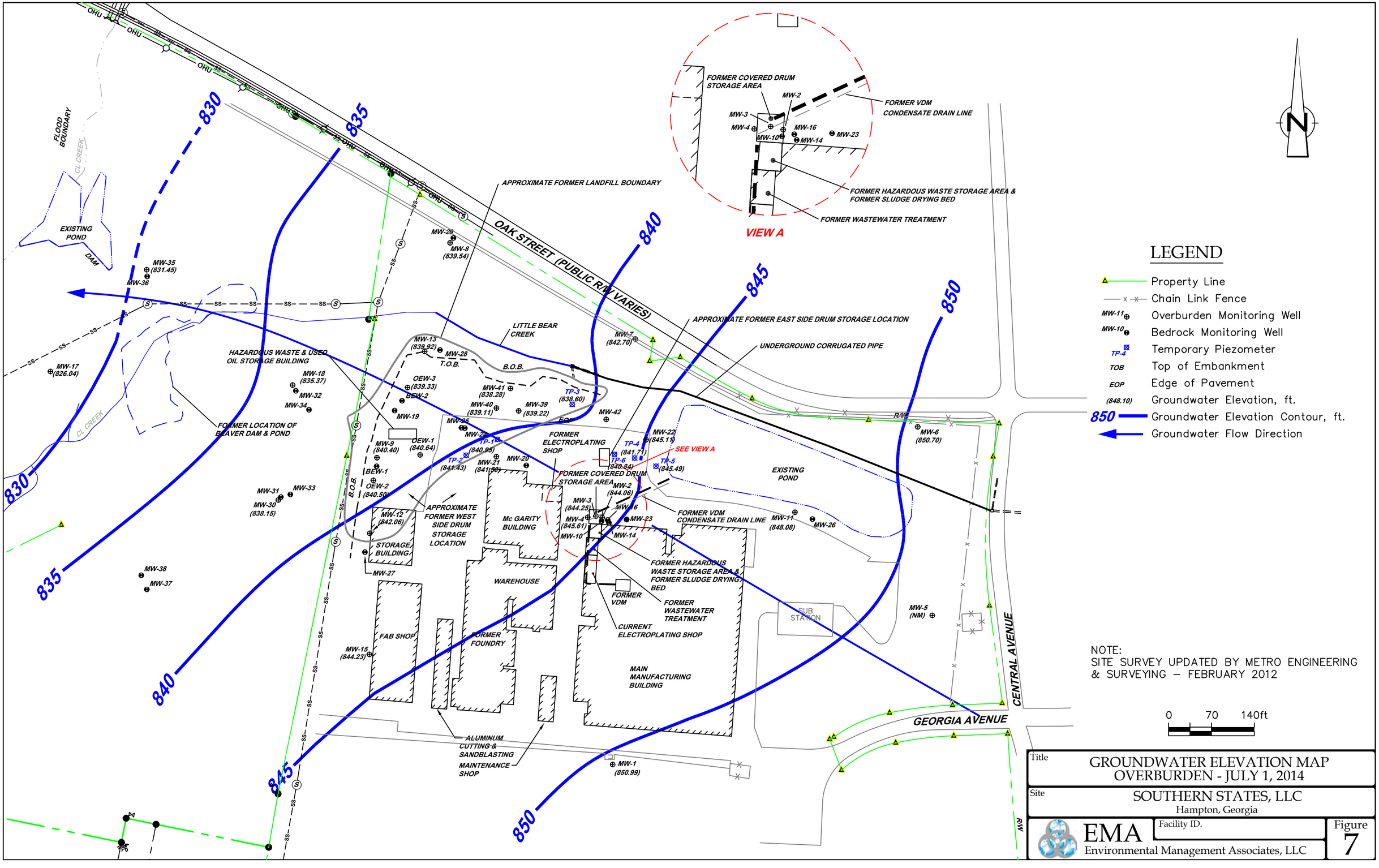
Title: CROSS SECTION C-C'

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA
Environmental Management Associates, LLC

Facility ID.

Figure 6



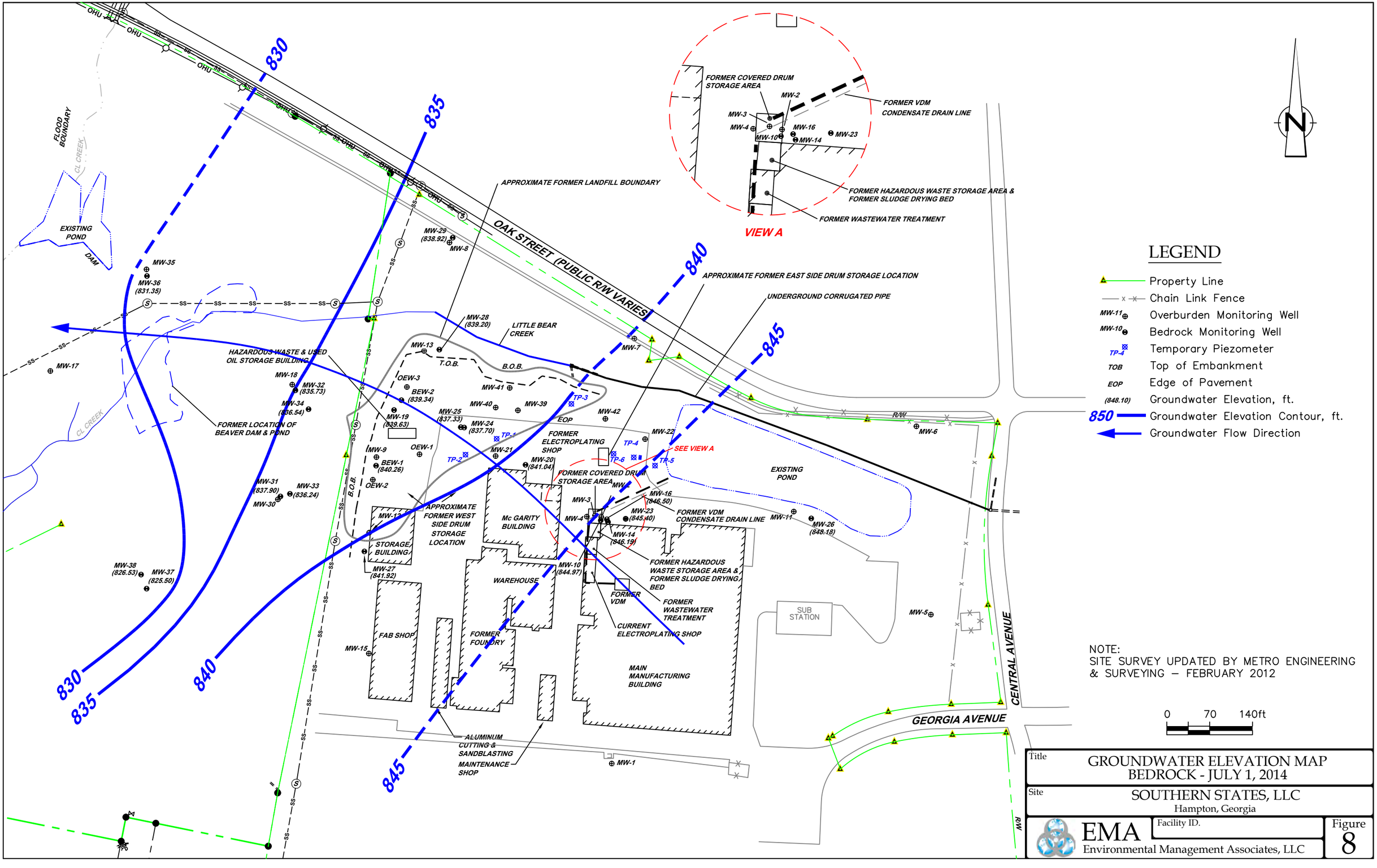
Title: GROUNDWATER ELEVATION MAP OVERBURDEN - JULY 1, 2014

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA
Environmental Management Associates, LLC

Facility ID.

Figure 7



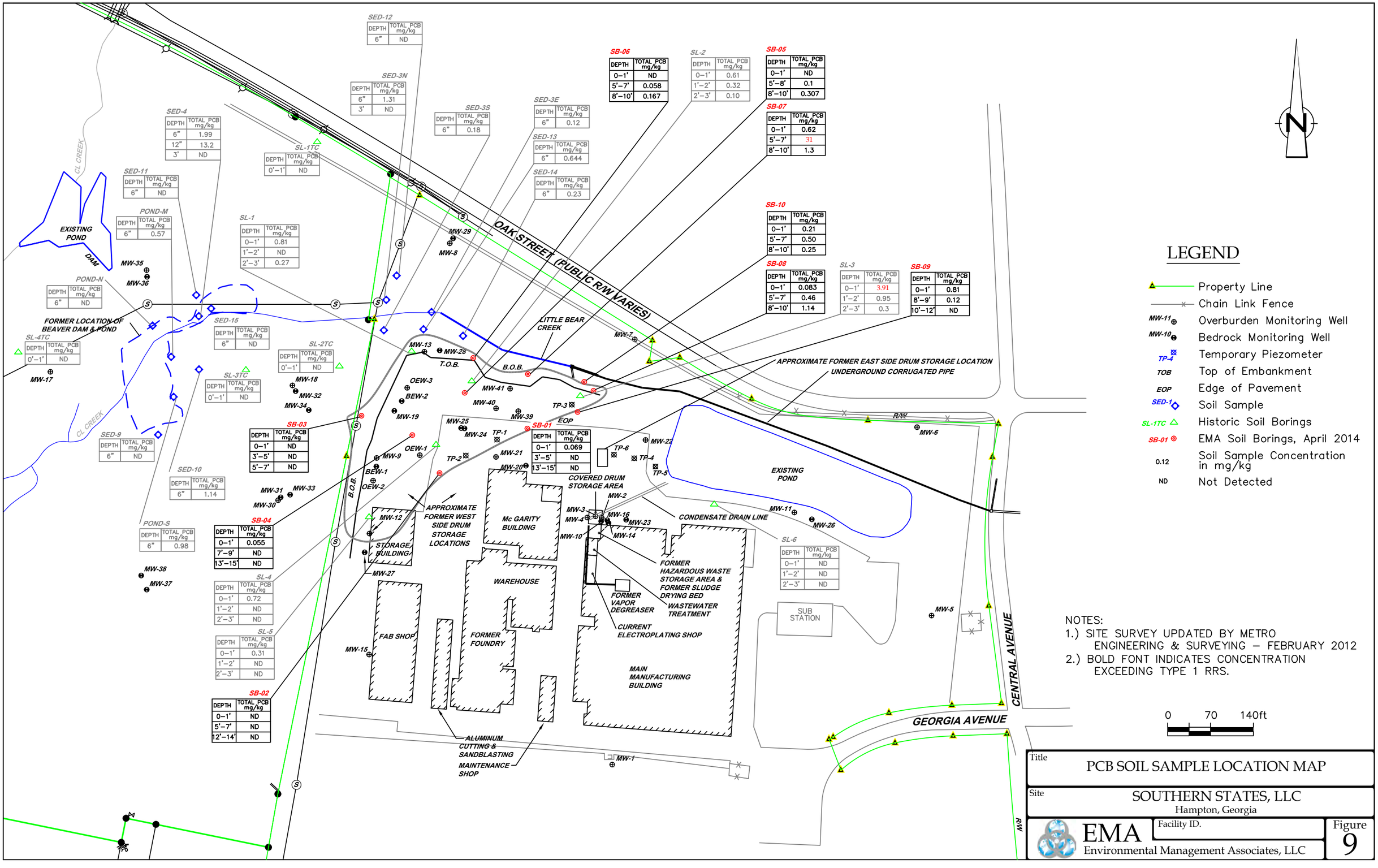
Title: GROUNDWATER ELEVATION MAP BEDROCK - JULY 1, 2014

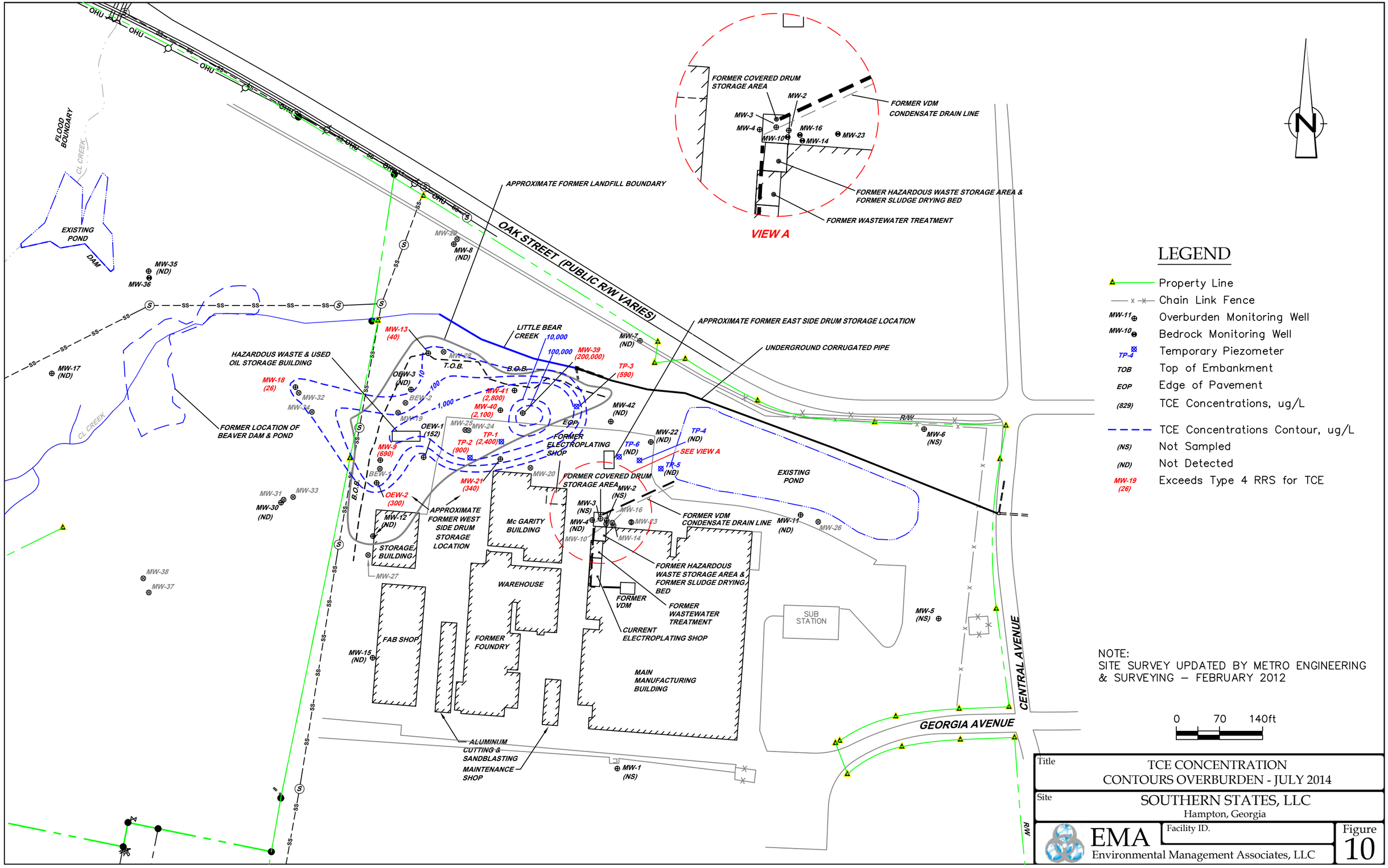
Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA Environmental Management Associates, LLC

Facility ID.

Figure 8


SED-12
DEPTH | TOTAL_PCB mg/kg
6" | ND
SED-3N
DEPTH | TOTAL_PCB mg/kg
6" | 1.31
3' | ND
SED-3S
DEPTH | TOTAL_PCB mg/kg
6" | 0.18
SED-3E
DEPTH | TOTAL_PCB mg/kg
6" | 0.12
SED-13
DEPTH | TOTAL_PCB mg/kg
6" | 0.644
SED-14
DEPTH | TOTAL_PCB mg/kg
6" | 0.23
SB-06
DEPTH | TOTAL_PCB mg/kg
0–1' | ND
5'–7' | 0.058
8'–10' | 0.167
SL-2
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.61
1'–2' | 0.32
2'–3' | 0.10
SB-05
DEPTH | TOTAL_PCB mg/kg
0–1' | ND
5'–8' | 0.1
8'–10' | 0.307
SB-07
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.62
5'–7' | 31
8'–10' | 1.3
SED-4
DEPTH | TOTAL_PCB mg/kg
6" | 1.99
12" | 13.2
3' | ND
SL-1TC
DEPTH | TOTAL_PCB mg/kg
0'–1' | ND
SED-11
DEPTH | TOTAL_PCB mg/kg
6" | ND
POND-M
DEPTH | TOTAL_PCB mg/kg
6" | 0.57
SL-1
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.81
1'–2' | ND
2'–3' | 0.27
SB-10
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.21
5'–7' | 0.50
8'–10' | 0.25
SB-08
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.083
5'–7' | 0.46
8'–10' | 1.14
SL-3
DEPTH | TOTAL_PCB mg/kg
0–1' | 3.91
1'–2' | 0.95
2'–3' | 0.3
SB-09
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.81
8'–9' | 0.12
10'–12' | ND
POND-N
DEPTH | TOTAL_PCB mg/kg
6" | ND
SED-15
DEPTH | TOTAL_PCB mg/kg
6" | ND
SL-4TC
DEPTH | TOTAL_PCB mg/kg
0'–1' | ND
SL-2TC
DEPTH | TOTAL_PCB mg/kg
0'–1' | ND
SL-3TC
DEPTH | TOTAL_PCB mg/kg
0'–1' | ND
SB-03
DEPTH | TOTAL_PCB mg/kg
0–1' | ND
3'–5' | ND
5'–7' | ND
SB-01
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.069
3'–5' | ND
13'–15' | ND
SED-9
DEPTH | TOTAL_PCB mg/kg
6" | ND
SED-10
DEPTH | TOTAL_PCB mg/kg
6" | 1.14
POND-S
DEPTH | TOTAL_PCB mg/kg
6" | 0.98
SB-04
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.055
7'–9' | ND
13'–15' | ND
SL-4
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.72
1'–2' | ND
2'–3' | ND
SL-5
DEPTH | TOTAL_PCB mg/kg
0–1' | 0.31
1'–2' | ND
2'–3' | ND
SB-02
DEPTH | TOTAL_PCB mg/kg
0–1' | ND
5'–7' | ND
12'–14' | ND
SL-6
DEPTH | TOTAL_PCB mg/kg
0–1' | ND
1'–2' | ND
2'–3' | ND
CL CREEK
EXISTING POND
DAM
OAK STREET (PUBLIC R/W VARIES)
LITTLE BEAR CREEK
FORMER LOCATION OF BEAVER DAM & POND
APPROXIMATE FORMER EAST SIDE DRUM STORAGE LOCATION
UNDERGROUND CORRUGATED PIPE
COVERED DRUM STORAGE AREA
APPROXIMATE FORMER WEST SIDE DRUM STORAGE LOCATIONS
Mc GARITY BUILDING
STORAGE BUILDING
WAREHOUSE
FAB SHOP
FORMER FOUNDRY
MAIN MANUFACTURING BUILDING
CURRENT ELECTROPLATING SHOP
FORMER VAPOR DEGREASER
FORMER HAZARDOUS WASTE STORAGE AREA & FORMER SLUDGE DRYING BED
WASTEWATER TREATMENT
ALUMINUM CUTTING & SANDBLASTING MAINTENANCE SHOP
CONDENSATE DRAIN LINE
EXISTING POND
SUB STATION
CENTRAL AVENUE
GEORGIA AVENUE
R/W
B.O.B.
T.O.B.
EOP
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
MW-20
MW-21
MW-22
MW-23
MW-24
MW-25
MW-26
MW-27
MW-28
MW-29
MW-30
MW-31
MW-32
MW-33
MW-34
MW-35
MW-36
MW-37
MW-38
MW-39
MW-40
MW-41
OEW-1
OEW-2
OEW-3
BEW-1
BEW-2
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
N
LEGEND
Property Line
Chain Link Fence
MW-11 Overburden Monitoring Well
MW-10 Bedrock Monitoring Well
TP-4 Temporary Piezometer
TOB Top of Embankment
EOP Edge of Pavement
SED-1 Soil Sample
SL-1TC Historic Soil Borings
SB-01 EMA Soil Borings, April 2014
0.12 Soil Sample Concentration in mg/kg
ND Not Detected
NOTES:
1.) SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012
2.) BOLD FONT INDICATES CONCENTRATION EXCEEDING TYPE 1 RRS.
0 70 140ft
Title
PCB SOIL SAMPLE LOCATION MAP
Site
SOUTHERN STATES, LLC
Hampton, Georgia
EMA
Environmental Management Associates, LLC
Facility ID.
Figure
9



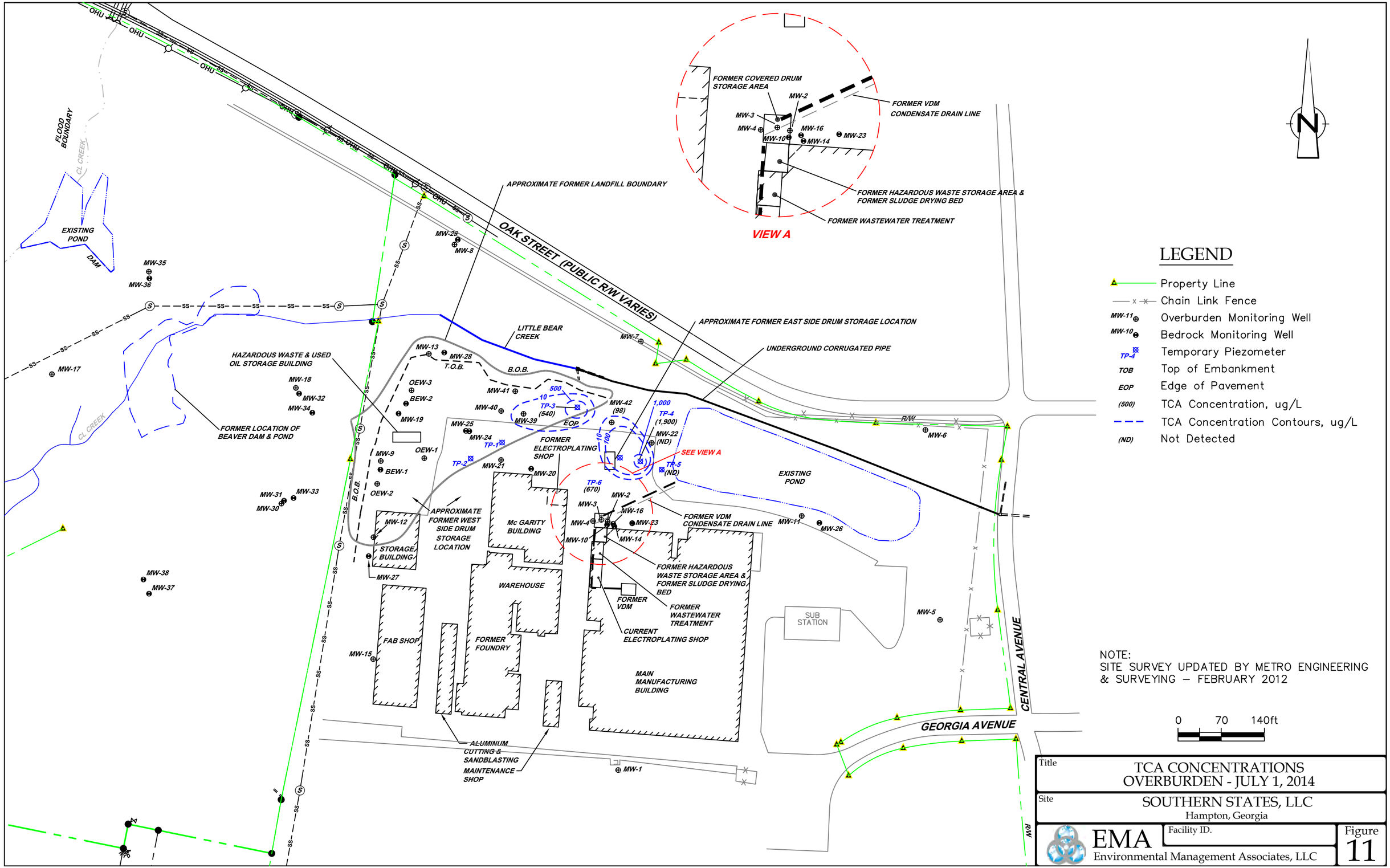
LEGEND

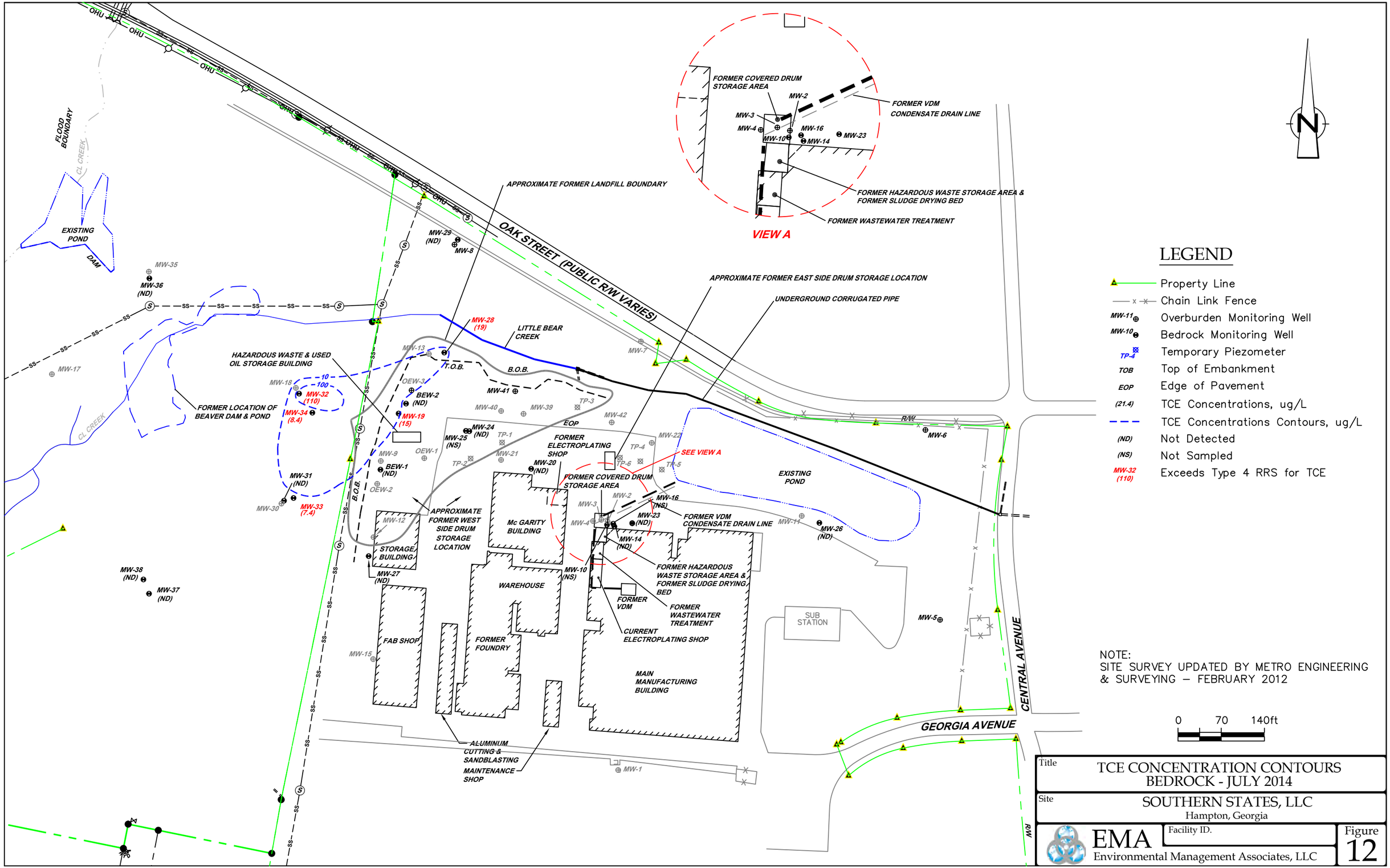
- Property Line
- Chain Link Fence
- MW-11 — Overburden Monitoring Well
- MW-10 — Bedrock Monitoring Well
- TP-4 — Temporary Piezometer
- TOB — Top of Embankment
- EOP — Edge of Pavement
- (829) — TCE Concentrations, ug/L
- TCE Concentrations Contour, ug/L
- (NS) — Not Sampled
- (ND) — Not Detected
- MW-19 (26) — Exceeds Type 4 RRS for TCE

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012

0 70 140ft

Title	TCE CONCENTRATION CONTOURS OVERBURDEN - JULY 2014
Site	SOUTHERN STATES, LLC Hampton, Georgia
EMA Environmental Management Associates, LLC	Facility ID.
Figure	10


OAK STREET (PUBLIC R/W VARIES)
OHU
SS
FLOOD BOUNDARY
CL CREEK
EXISTING POND
DAM
APPROXIMATE FORMER LANDFILL BOUNDARY
MW-35
MW-36
MW-17
MW-18
MW-32
MW-34
MW-19
MW-28
MW-8
MW-7
LITTLE BEAR CREEK
HAZARDOUS WASTE & USED OIL STORAGE BUILDING
FORMER LOCATION OF BEAVER DAM & POND
APPROXIMATE FORMER EAST SIDE DRUM STORAGE LOCATION
UNDERGROUND CORRUGATED PIPE
MW-13
MW-28
T.O.B.
B.O.B.
OEW-3
BEW-2
MW-41
MW-40
MW-39
500
10
TP-3
(540)
EOP
MW-42
(98)
1,000
TP-4
(1,900)
MW-22
(ND)
SEE VIEW A
TP-5
(ND)
MW-25
MW-24
TP-1
TP-2
MW-21
MW-20
FORMER ELECTROPLATING SHOP
OEW-1
MW-9
BEW-1
OEW-2
MW-31
MW-33
MW-30
MW-12
APPROXIMATE FORMER WEST SIDE DRUM STORAGE LOCATION
Mc GARITY BUILDING
TP-6
(670)
MW-3
MW-2
MW-16
MW-4
MW-23
MW-10
MW-14
FORMER VDM CONDENSATE DRAIN LINE
MW-11
MW-26
STORAGE BUILDING
MW-27
MW-38
MW-37
WAREHOUSE
FORMER HAZARDOUS WASTE STORAGE AREA & FORMER SLUDGE DRYING BED
FORMER VDM
FORMER WASTEWATER TREATMENT
CURRENT ELECTROPLATING SHOP
FAB SHOP
MW-15
FORMER FOUNDRY
MAIN MANUFACTURING BUILDING
ALUMINUM CUTTING & SANDBLASTING MAINTENANCE SHOP
MW-1
SUB STATION
MW-5
EXISTING POND
R/W
MW-6
CENTRAL AVENUE
GEORGIA AVENUE
FORMER COVERED DRUM STORAGE AREA
FORMER VDM CONDENSATE DRAIN LINE
FORMER HAZARDOUS WASTE STORAGE AREA & FORMER SLUDGE DRYING BED
FORMER WASTEWATER TREATMENT
VIEW A
N
LEGEND
Property Line
Chain Link Fence
MW-11 Overburden Monitoring Well
MW-10 Bedrock Monitoring Well
TP-4 Temporary Piezometer
TOB Top of Embankment
EOP Edge of Pavement
(500) TCA Concentration, ug/L
TCA Concentration Contours, ug/L
(ND) Not Detected
NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012
0 70 140ft
Title
TCA CONCENTRATIONS OVERBURDEN - JULY 1, 2014
Site
SOUTHERN STATES, LLC
Hampton, Georgia
EMA
Environmental Management Associates, LLC
Facility ID.
Figure
11



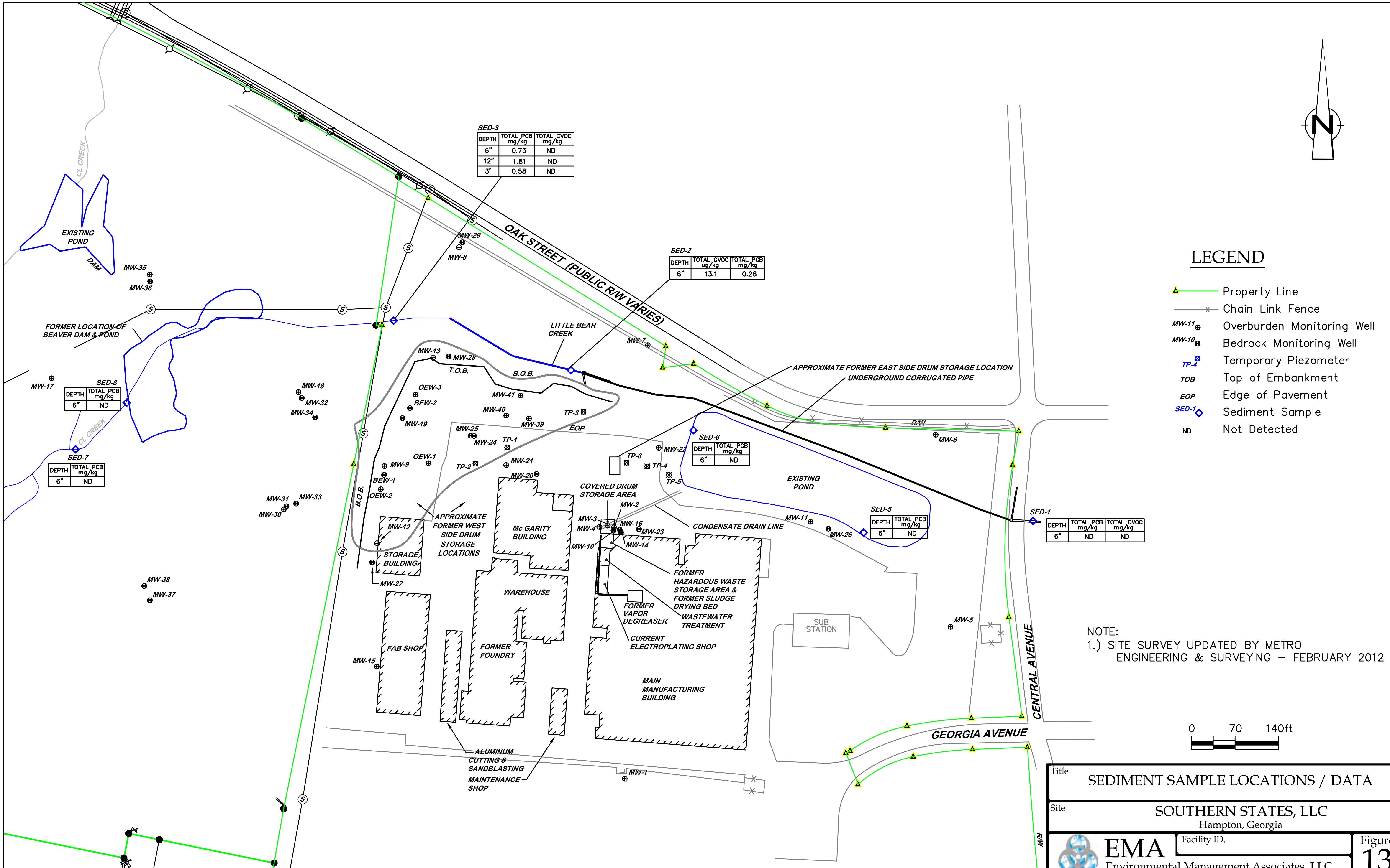
Title: TCE CONCENTRATION CONTOURS BEDROCK - JULY 2014

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA Environmental Management Associates, LLC

Facility ID.

Figure 12



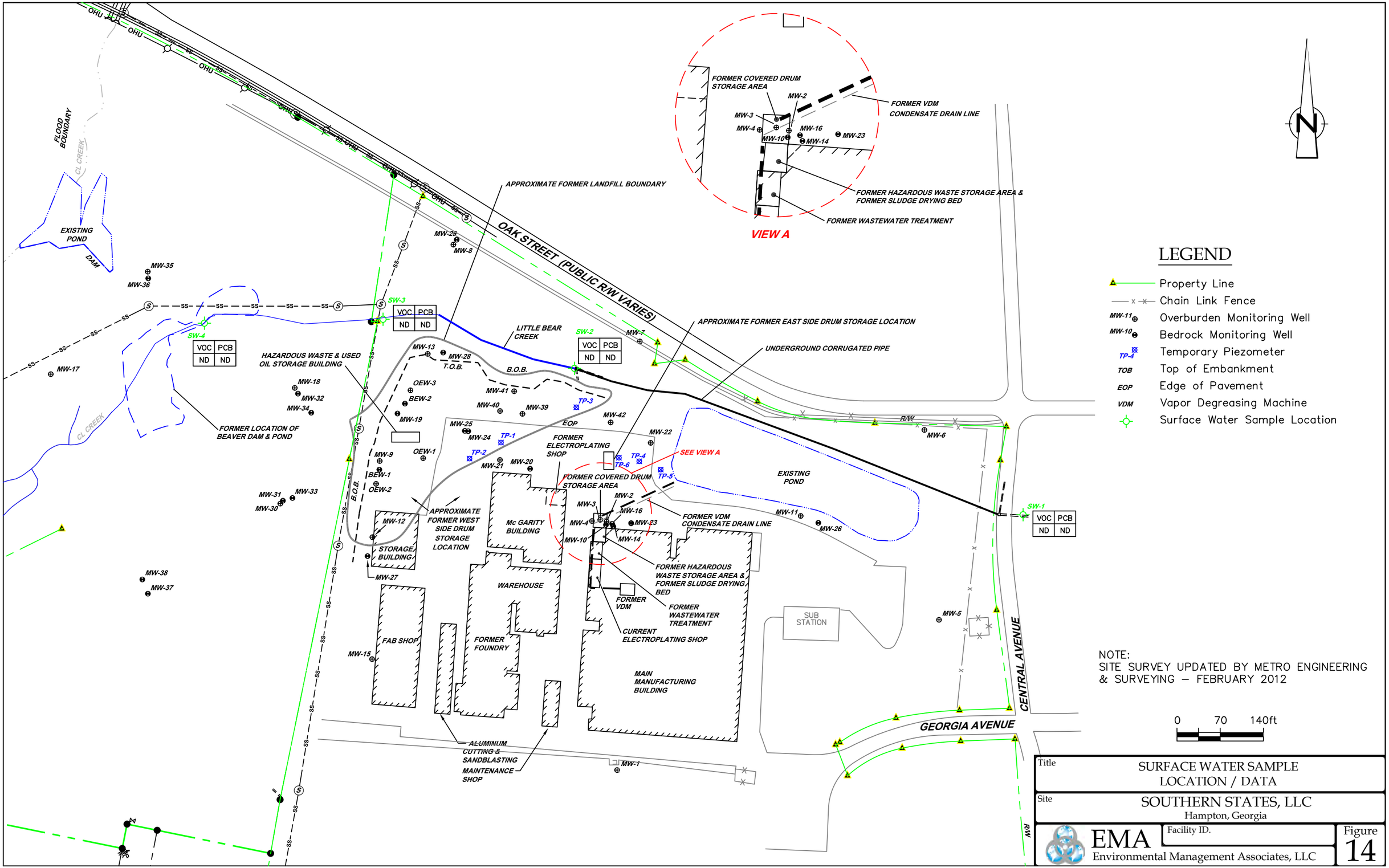
Title: SEDIMENT SAMPLE LOCATIONS / DATA

Site: SOUTHERN STATES, LLC
Hampton, Georgia

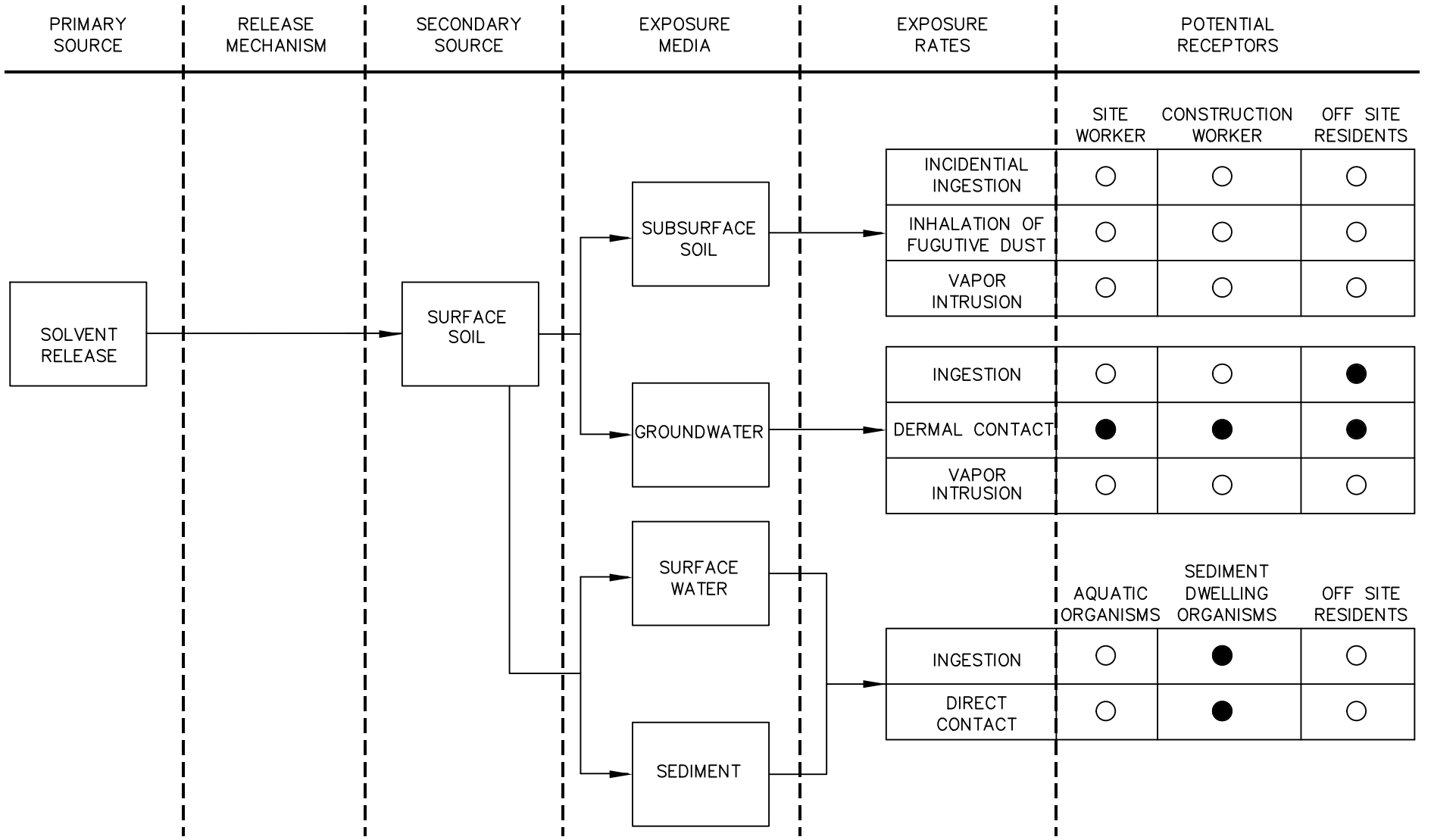
EMA
Environmental Management Associates, LLC

Facility ID.

Figure 13



Title	SURFACE WATER SAMPLE LOCATION / DATA
Site	SOUTHERN STATES, LLC Hampton, Georgia
EMA Environmental Management Associates, LLC	Facility ID.
Figure	14



LEGEND:

● POTENTIALLY COMPLETE PATHWAY

○ POTENTIALLY INCOMPLETE PATHWAY

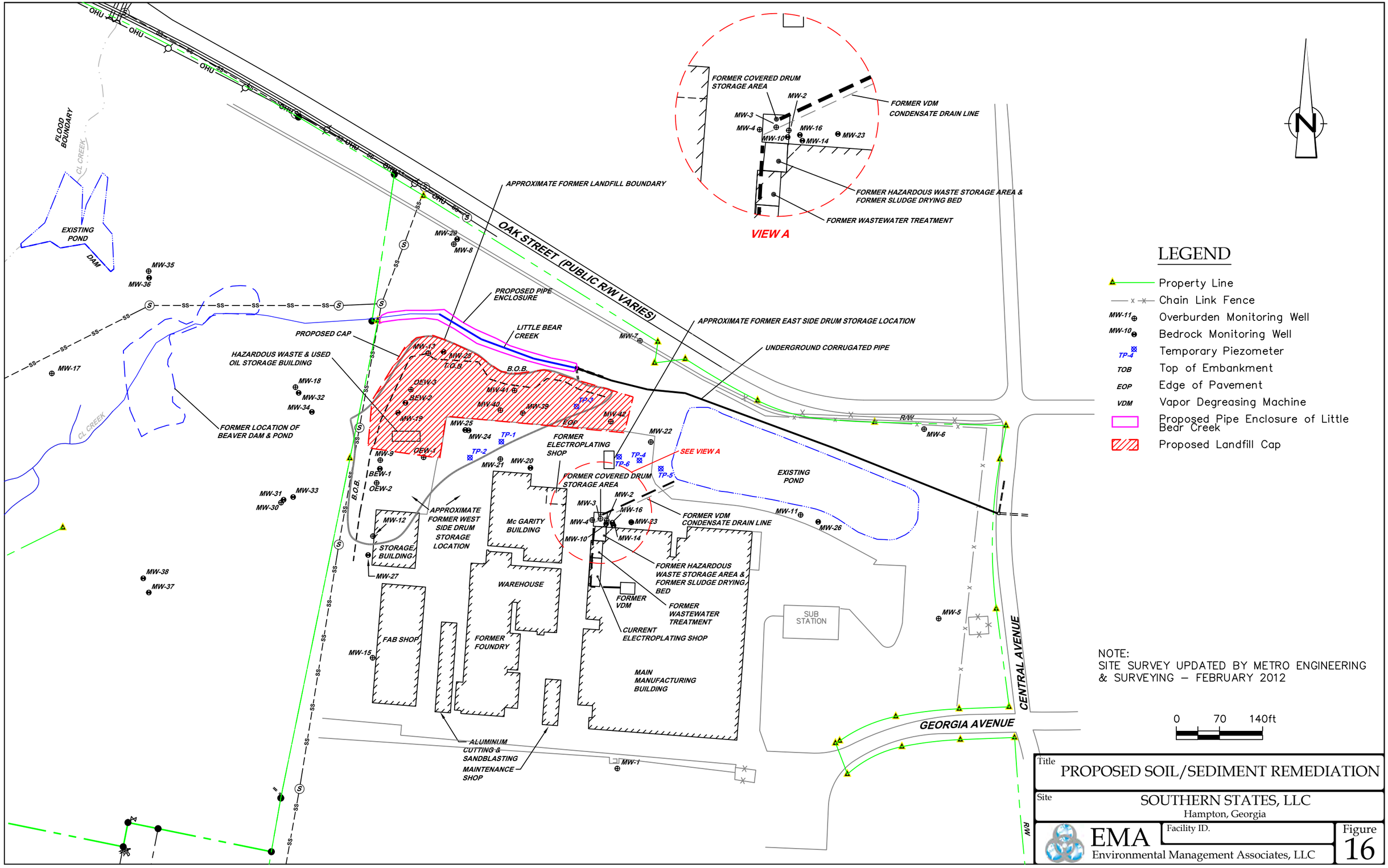
Title: CONCEPTUAL SITE MODEL

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA
Environmental Management Associates, LLC

Facility ID.

Figure 15


OAK STREET (PUBLIC R/W VARIES)
OHU
SS
FLOOD BOUNDARY
CL CREEK
EXISTING POND
DAM
MW-35
MW-36
MW-17
MW-18
MW-32
MW-34
MW-31
MW-33
MW-30
MW-38
MW-37
MW-28
MW-8
APPROXIMATE FORMER LANDFILL BOUNDARY
PROPOSED PIPE ENCLOSURE
PROPOSED CAP
LITTLE BEAR CREEK
HAZARDOUS WASTE & USED OIL STORAGE BUILDING
FORMER LOCATION OF BEAVER DAM & POND
MW-13
MW-28 T.O.B.
B.O.B.
OEW-3
BEW-2
MW-19
OEW-1
MW-41
MW-40
MW-39
TP-3
EOP
MW-44
MW-25
MW-24
TP-1
TP-2
MW-9
BEW-1
OEW-2
MW-21
MW-20
FORMER ELECTROPLATING SHOP
MW-22
TP-4
TP-6
TP-5
SEE VIEW A
FORMER COVERED DRUM STORAGE AREA
MW-3
MW-2
MW-16
MW-4
MW-23
MW-10
MW-14
FORMER VDM CONDENSATE DRAIN LINE
MW-11
MW-26
APPROXIMATE FORMER WEST SIDE DRUM STORAGE LOCATION
Mc GARITY BUILDING
MW-12
STORAGE BUILDING
MW-27
WAREHOUSE
FORMER HAZARDOUS WASTE STORAGE AREA & FORMER SLUDGE DRYING BED
FORMER VDM
FORMER WASTEWATER TREATMENT
CURRENT ELECTROPLATING SHOP
FAB SHOP
MW-15
FORMER FOUNDRY
MAIN MANUFACTURING BUILDING
ALUMINUM CUTTING & SANDBLASTING MAINTENANCE SHOP
MW-1
APPROXIMATE FORMER EAST SIDE DRUM STORAGE LOCATION
UNDERGROUND CORRUGATED PIPE
R/W
MW-6
EXISTING POND
SUB STATION
MW-5
CENTRAL AVENUE
GEORGIA AVENUE
RW
FORMER COVERED DRUM STORAGE AREA
MW-2
FORMER VDM CONDENSATE DRAIN LINE
MW-3
MW-4
MW-16
MW-23
MW-10
MW-14
FORMER HAZARDOUS WASTE STORAGE AREA & FORMER SLUDGE DRYING BED
FORMER WASTEWATER TREATMENT
VIEW A
N
LEGEND
Property Line
Chain Link Fence
MW-11 Overburden Monitoring Well
MW-10 Bedrock Monitoring Well
TP-4 Temporary Piezometer
TOB Top of Embankment
EOP Edge of Pavement
VDM Vapor Degreasing Machine
Proposed Pipe Enclosure of Little Bear Creek
Proposed Landfill Cap
NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012
0 70 140ft
Title
PROPOSED SOIL/SEDIMENT REMEDIATION
Site
SOUTHERN STATES, LLC
Hampton, Georgia
EMA
Environmental Management Associates, LLC
Facility ID.
Figure
16

TABLES

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS
OVERBURDEN MONITORING AND EXTRACTION WELLS
SOUTHERN STATES, LLC.
JULY 1, 2014

Monitoring Well	*Reference Elevation (ft.)* [1]	*Depth to Groundwater (ft.)* [2]	*Groundwater Elevation (ft.)*
MW-1	861.24	10.25	850.99
MW-2	856.22	12.16	844.06
MW-3	857.78	13.53	844.25
MW-4	857.96	12.35	845.61
MW-5[3]	858.07	9.24	848.83
MW-6	857.53	6.83	850.70
MW-7	847.59	4.89	842.70
MW-8	849.28	9.74	839.54
MW-9	856.50	16.10	840.40
MW-11	855.99	7.91	848.08
MW-12	857.56	15.50	842.06
MW-13[4]	850.30	11.38	838.92
MW-15	859.50	15.27	844.23
MW-17	833.71	7.67	826.04
MW-18	838.03	2.66	835.37
MW-21	851.32	9.82	841.50
MW-22	851.93	6.82	845.11
MW-30	843.39	5.24	838.15
MW-35	839.95	8.50	831.45
MW-39	848.47	9.25	839.22
MW-40	851.86	12.75	839.11
MW-41	851.38	13.10	838.28
MW-42		13.15	
OEW-1	855.66	15.02	840.64
OEW-2	856.90	16.40	840.50
OEW-3	852.49	13.16	839.33
TP-1	850.44	9.49	840.95
TP-2[3]	851.36	9.93	841.43
TP-3	848.34	9.74	838.6
TP-4	848.96	7.25	841.71
TP-5	851.93	6.44	845.49
TP-6	849.43	8.59	840.84

Notes:

[1] North Atlantic Vertical Datum in feet

[2] Feet below top of casing

[3] Top of casing revised October 4, 2005

[4] MW-13 was repaired and TP-2 was replaced in April 2009

TABLE 2

SUMMARY OF GROUNDWATER ELEVATIONS
BEDROCK MONITORING AND EXTRACTION WELLS
SOUTHERN STATES, LLC.
JULY 1, 2014

Monitoring Well	*Reference Elevation (ft.)* [1]	*Depth to Groundwater (ft.)* [2]	*Groundwater Elevation (ft.)*
MW-10	857.62	12.65	844.97
MW-14	857.59	11.40	846.19
MW-16	858.60	12.10	846.50
MW-19[3]	850.81	11.18	839.63
MW-20[3]	851.88	10.84	841.04
MW-23	857.01	11.61	845.40
MW-24[4]	849.37	11.67	837.70
MW-25[4]	849.38	12.05	837.33
MW-26 [5]	855.08	6.90	848.18
MW-27	857.22	15.30	841.92
MW-28	847.20	8.00	839.20
MW-29	849.17	10.25	838.92
MW-31	843.92	6.02	837.90
MW-32	838.86	3.13	835.73
MW-33	844.27	8.03	836.24
MW-34	841.30	4.76	836.54
MW-36	838.97	7.62	831.35
MW-37	842.25	16.75	825.50
MW-38	841.93	15.40	826.53
BEW-1	857.39	17.13	840.26
BEW-2	853.74	14.40	839.34

Notes:

[1] North Atlantic Vertical Datum in feet

[2] Feet below top of casing

[3] Monitoring well MW-19, MW-20 was repaired in April 2009

[4] Monitoring wells MW-24 and MW-25 top of casing corrected June 2011

[5] Top of casing revised October 4, 2005

TABLE 3
SUMMARY OF DETECTED PCBS IN SOIL
FORMER LANDFILL
SOUTHERN STATES, LLC
HAMPTON, GEORGIA

			Former Landfill - Current Sampling											
Parameters	***Units***	***Type 1***	SB-01 0-1 [1]	SB-01 3-5	SB-01 13-15	SB-02 0-1	SB-02 5-7	SB-02 12-14	SB-03 0-1	SB-03 3-5	SB-03 5-7	SB-04 0-1	SB-04 7-9	SB-04 13-15
Date		***RRS (Soils)***	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014
PCBs														
Arochlor-1016	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1221	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1232	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1242	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1248	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1254	mg/kg	1.55	0.069	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1260	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.055	BDL	BDL
Total PCBS	mg/kg	1.55	0.069	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.055	BDL	BDL

			Former Landfill - Current Sampling											
Parameters	***Units***	***Type 1***	SB-05 01	SB-05 5-8	SB-05 8-10	SB-06 0-1	SB-06 5-7	SB-06 8-10	SB-07 0-1	SB-07 5-7	SB-07 8-10	SB-08 0-1	SB-08 5-7	SB-08 8-10
Date		***RRS (Soils)***	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014
PCBs														
Arochlor-1016	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1221	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1232	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1242	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1248	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1254	mg/kg	1.55	BDL	BDL	0.21	BDL	BDL	0.094	0.48	**31**	1.3	BDL	0.12	0.48
Arochlor-1260	mg/kg	1.55	BDL	0.1	0.097	BDL	0.058	0.073	0.14	BDL	BDL	0.083	0.34	0.66
Total PCBS	mg/kg	1.55	BDL	0.1	0.307	BDL	0.058	0.167	0.62	**31**	1.3	0.082	0.46	1.14

			Former Landfill - Current Sampling									
Parameters	***Units***	***Type 1***	SB-09 0-1	SB-09 8-10	SB-09 10-12	SB-10 0-1	SB-10 5-7	SB-10 8-10	SED-3-N	SED-3N-3	SED-3-E	SED-3-S
Date		***RRS (Soils)***	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	3/31/2014	2/2/2012	3/30/2012	2/2/2012	2/2/2012
PCBs												
Arochlor-1016	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1221	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1232	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1242	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	1.2	BDL	0.12	BDL
Arochlor-1248	mg/kg	1.55	BDL	BDL	BDL	0.21	BDL	BDL	BDL	BDL	BDL	0.18
Arochlor-1254	mg/kg	1.55	0.22	BDL	BDL	BDL	0.23	BDL	BDL	BDL	BDL	BDL
Arochlor-1260	mg/kg	1.55	0.59	0.12	BDL	BDL	0.27	0.25	0.11	BDL	BDL	BDL
Total PCBS	mg/kg	1.55	0.81	0.12	BDL	0.21	0.5	0.25	1.31	BDL	0.12	0.18

			Former Landfill - Historic Sampling											
Parameters	***Units***	***Type 1***	SL-1	SL-1-2	SL-1-3	SL-2	SL-2-2	SL-2-3	SL-3	SL-3-2	SL-3-3	SL-4	SL-4-2	SL-4-3
Date		***RRS (Soils)***	3/7/1994	8/11/1994	3/7/1994	4/6/1994	8/11/1994	8/11/1994	4/6/1994	8/11/1994	8/11/1994	4/6/1994	8/11/1994	8/11/1994
PCBs														
Arochlor-1242	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1248	mg/kg	1.55	0.47	BDL	BDL	0.29	BDL	BDL	**2.6**	BDL	BDL	0.35	BDL	BDL
Arochlor-1254	mg/kg	1.55	0.19	BDL	0.13	0.28	0.23	0.044	1.2	0.81	0.22	0.28	BDL	BDL
Arochlor-1260	mg/kg	1.55	0.15	BDL	0.14	0.039	0.087	0.058	0.11	0.14	0.08	0.091	BDL	BDL
Total PCBS	mg/kg	1.55	0.81	BDL	0.27	0.61	0.32	0.1	**3.91**	0.95	0.3	0.72	BDL	BDL

			Former Landfill - Historic Sampling					
Parameters	***Units***	***Type 1***	SL-5	SL-5-2	SL-5-3	SL-6	SL-6-2	SL-6-3
Date		***RRS (Soils)***	4/6/1994	8/11/1994	8/11/1994	8/11/1994	8/11/1994	8/11/1994
PCBs								
Arochlor-1242	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1248	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1254	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1260	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL
Total PCBS	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL

Notes:
(1) - Sample identifier and associated depth at which the sample was collected
Data in bold indicate exceedance of the Type 1 RRS.

TABLE 4
SUMMARY OF HISTORIC DETECTED PCBs IN SOIL
FORMER BEAVER POND
SOUTHERN STATES, LLC
HAMPTON, GEORGIA

			Former Beaver Pond Area - Historic Sampling			
Parameters	***Units***	***Type 1***	SL-1TC	SL-2TC	SL-3TC	SL-4TC
Date		***RRS (Soils)***	3/7/1994	3/7/1994	3/7/1994	3/7/1994
PCBs						
Arochlor-1242	mg/kg	1.55	BDL	BDL	BDL	BDL
Arochlor-1248	mg/kg	1.55	BDL	BDL	BDL	BDL
Arochlor-1254	mg/kg	1.55	BDL	BDL	BDL	BDL
Arochlor-1260	mg/kg	1.55	BDL	BDL	BDL	BDL
Total PCBS	mg/kg	1.55	BDL	BDL	BDL	BDL

			Former Beaver Pond - Current Sampling											
Parameters	***Units***	***Type 1***	SED-4	SED-4-12	SED-4-3	SED-7	SED-8	SED-9	SED-10	SED-11	SED-12	SED-13	SED-14	POND-N
Date		***RRS (Soils)***	1/12/2012	2/12/2012	3/30/2012	2/2/2012	3/30/2012	3/30/2012	3/30/2012	3/30/2012	3/30/2012	3/30/2012	3/30/2012	2/12/2012
PCBs														
Arochlor-1016	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1221	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1232	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1242	mg/kg	1.55	0.19	BDL	BDL	BDL	BDL	BDL	0.12	BDL	BDL	0.31	BDL	BDL
Arochlor-1248	mg/kg	1.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1254	mg/kg	1.55	1.2	**9.7**	BDL	BDL	BDL	BDL	0.48	BDL	BDL	0.24	0.12	BDL
Arochlor-1260	mg/kg	1.55	0.6	**3.5**	BDL	BDL	BDL	BDL	0.54	BDL	BDL	0.094	0.11	BDL
Total PCBS	mg/kg	1.55	**1.99**	**13.2**	BDL	BDL	BDL	BDL	1.14	BDL	BDL	0.644	0.23	BDL

			Former Beaver Pond - Current Sampling	
Parameters	***Units***		POND-M	POND-S
Date			2/12/2012	2/12/2012
PCBs				
Arochlor-1016	mg/kg	1.55	BDL	BDL
Arochlor-1221	mg/kg	1.55	BDL	BDL
Arochlor-1232	mg/kg	1.55	BDL	BDL
Arochlor-1242	mg/kg	1.55	BDL	BDL
Arochlor-1248	mg/kg	1.55	BDL	BDL
Arochlor-1254	mg/kg	1.55	0.26	0.58
Arochlor-1260	mg/kg	1.55	0.31	0.4
Total PCBS	mg/kg	1.55	0.57	0.98

Notes:

1) Historic samples collected by GeoSciences

All samples collected by in 2012 were collected by EMA.

Data in bold indicate exceedance of Type 1 RRS

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-7*	*MW-7*	*MW-7*	*MW-7*
Sample Name:			*GW042010DJB113*	*GW102710SAG026*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*MW-4*	*GW042210SAG011*	*GW102510TRH103*	*MW-7*	*MW-7*
Sample Date:			*4/20/2010*	*10/27/2010*	*6/23/2011*	*11/15/11*	*5/9/12*	*11/5/12*	*4/23/13*	*12/5/13*	*7/1/14*	*4/22/2010*	*10/25/2010*	*6/23/2011*	*11/17/11*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98									5.0 U				
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–								–	–		
Chloride	µg/L	NC	25200	31100	26000	24000	–	–	–	–	–	7480	7140	8200	7800
Ferrous iron	µg/L	NC	100 U	100 U	100 U	BDL (100)	–	–	–	–	–	100 U	100 U	100 U	BDL (100)
Nitrate (as N)	µg/L	NC	–	–			–	–	–	–	–	–	–		
Nitrite (as N)	µg/L	NC	–	–			–	–	–	–	–	–	–		
Orthophosphate	µg/L	NC	–	–			–	–	–	–	–	–	–		
Sulfate	µg/L	NC	27800	28300	25000	23000	–	–	–	–	–	6000	4580	5600	4200
Sulfide	µg/L	NC	–	–			–	–	–	–	–	–	–		

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
-- Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-7*	*MW-7*	*MW-7*	*MW-7*	*MW-7*	*MW-8*	*MW-8*	*MW-8*	*MW-8*	*MW-8*	*MW-8*	*MW-8*	*MW-8*
Sample Name:			*MW-7*	*MW-7*	*MW-7*	*MW-7*	*MW-7*	*GW042210SAG012*	*GW102610SAG021*	*MW-8*	*MW-8*	*MW-8*	*MW-8*	*MW-8*	*MW-8*
Sample Date:			*5/8/12*	*11/5/12*	*4/24/13*	*12/5/13*	*7/1/14*	*4/22/2010*	*10/26/2010*	*6/23/2011*	*11/17/11*	*5/8/12*	*11/5/12*	*4/24/13*	*12/4/13*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98					5.0 U								
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC						–	–						
Chloride	µg/L	NC	–	–	–	–	–	7710	8740	8600	8200	–	–	–	–
Ferrous iron	µg/L	NC	–	–	–	–	–	100 U	100 U	100 U	BDL (100)	–	–	–	–
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	–			–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–			–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–			–	–	–	–
Sulfate	µg/L	NC	–	–	–	–	–	3040 U	3150	3200	2800	–	–	–	–
Sulfide	µg/L	NC	–	–	–	–	–	–	–			–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-8*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-11*
Sample Name:			*MW-8*	*GW041910SAG005*	*GW041910SAG006*	*GW102210DJB014*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-9*	*DUP-0424*	*MW-9*	*MW-9*	*GW042210DJB120*
Sample Date:			*12/4/13*	*4/19/2010*	*4/19/2010 Duplicate*	*10/22/2010*	*6/17/11*	*11/17/11*	*5/7/12*	*11/7/12*	*4/23/13*	*4/23/13*	*12/5/13*	*7/1/14*	*4/22/2010*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	19	22	18	12	10	8.9	7.6	6.8	7.0	6.8	8.5	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	18	26	17	14	13	7.9	6.3	8.0	8.4	6.9	6.3	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	52	56	39	44	35	45	42	32	33	29	38	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	1300	1100	1300	850	1000	700	700	460	530	670	690	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98	5.0 U											5.0 U	
Total chlorinated VOCs	µg/L	NC	ND	1389	1204	1374	920	1058	762	756	507	578	713	743	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–									–
Wet Chemistry															
Ammonia	µg/L	NC		–	–	–									–
Chloride	µg/L	NC	–	20800	20900	20000	18000	19000	–	–	–	–	–	–	47300
Ferrous iron	µg/L	NC	–	100 U	100 U	100 U	100 U	BDL (100)	–	–	–	–	–	–	10000 U
Nitrate (as N)	µg/L	NC	–	250 U	250 U	1560	1600	1500	–	–	–	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–			–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–			–	–	–	–	–	–	–
Sulfate	µg/L	NC	–	4640	4690	3910	3800	3800	–	–	–	–	–	–	3600 U
Sulfide	µg/L	NC	–	–	–	–			–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-11*	*MW-11*	*MW-11*	*MW-11*	*MW-11*	*MW-11*	*MW-11*	*MW-12*	*MW-12*	*MW-12*	*MW-12*	*MW-12*	*MW-12*
Sample Name:			*GW102010DJB011*	*MW-11*	*MW-11*	*MW-11*	*MW-11*	*MW-11*	*MW-11*	*G-041910SAG007*	*GW-102510-SAG-01*	*MW-12*	*MW-12*	*MW-12*	*MW-12*
Sample Date:			*10/20/2010*	*6/23/2011*	*11/15/11*	*5/9/12*	*11/5/12*	*4/23/13*	*12/5/13*	*4/19/2010*	*10/25/2010*	*6/17/11*	*11/17/11*	*5/8/12*	*11/7/12*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98							5.0 U						
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–							–	–				
Chloride	µg/L	NC	70800	75000	57000	–	–	–	–	5310	4940	4700	6500	–	–
Ferrous iron	µg/L	NC	29100	3370	3830	–	–	–	–	100 U	100 U	2410	BDL (100)	–	–
Nitrate (as N)	µg/L	NC	–			–	–	–	–	–	–			–	–
Nitrite (as N)	µg/L	NC	–			–	–	–	–	–	–			–	–
Orthophosphate	µg/L	NC	–			–	–	–	–	–	–			–	–
Sulfate	µg/L	NC	1000 U	5200	BDL (5000)	–	–	–	–	20100	18800	19000	19000	–	–
Sulfide	µg/L	NC	–			–	–	–	–	–	–			–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-12*	*MW-12*	*MW-12*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-15*
Sample Name:			*MW-12*	*MW-12*	*MW-12*	*GW041910DJB107*	*GW102610SAG023*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*MW-13*	*GW041910SAG009*
Sample Date:			*4/23/13*	*12/5/13*	*7/1/2014*	*4/19/2010*	*10/26/2010*	*6/17/2011*	*11/15/11*	*5/9/12*	*11/8/12*	*4/24/13*	*12/5/13*	*7/1/2014*	*4/19/2010*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	12	5.9	5.0	5.0 U	8.4	5.0 U	8.8	8.3	11	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	16	5.0 U	6.5	5.0 U	5.3	5.0 U	8.3	15	36	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	39	35	35	8.4	38	9.4	30	73	170	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	120	20	17	5.0 U	12	5.0 U	14	8.2	40	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	4.0	3.7	5.1	3.9	2.3	2.9	3.4	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98			5.0U									5.0 U	
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	191	64.6	68.6	12.3	66	12	64	104	262	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC				–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	–	15500	25900	36000	56000	–	–	–	–	–	10700
Ferrous iron	µg/L	NC	–	–	–	3500	3520	313	100 U	–	–	–	–	–	100 U
Nitrate (as N)	µg/L	NC	–	–	–	250 U	250 U	250 U	250 U	–	–	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–			–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–			–	–	–	–	–	–
Sulfate	µg/L	NC	–	–	–	14800	7030	6300	1000 U	–	–	–	–	–	1000 U
Sulfide	µg/L	NC	–	–	–	–	–								–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-17*	*MW-17*	*MW-17*	*MW-17*	*MW-17*
Sample Name:			*GW102510SAG019*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*MW-15*	*GW042210DJB124*	*GW102510TRH101*	*GW102510TRH102*	*MW-17*	*MW-17*
Sample Date:			*10/25/2010*	*6/23/2011*	*11/17/11*	*5/8/12*	*11/7/12*	*4/23/13*	*12/5/13*	*7/1/14*	*4/22/2010*	*10/25/2010*	*10/25/2010* *Duplicate*	*7/8/2011*	*11/18/11*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98								5.0 U					
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	8940	9200	9100	–	–	–	–	–	3040	3070	2960	3900	4000
Ferrous iron	µg/L	NC	100 U	100 U	100 U	–	–	–	–	–	5000 U	2320	1710	1060	5640
Nitrate (as N)	µg/L	NC	–			–	–	–	–	–	–	–	–	250 U	250 U
Nitrite (as N)	µg/L	NC	–			–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–			–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	1000 U	1000 U	1000 U	–	–	–	–	–	9810	64300	63600	8200	8400
Sulfide	µg/L	NC	–			–	–	–	–	–	–	–	–		

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-17*	*MW-17*	*MW-17*	*MW-17*	*MW-17*	*MW-17*	*MW-18*	*MW-18*	*MW-18*	*MW-18*	*MW-18*	*MW-18*	*MW-18*
Sample Name:			*MW-17*	*DUP-0510*	*MW-17*	*MW-17*	*MW-17*	*MW-17*	*GW041610SAG004*	*GW102010DJB009*	*MW-18*	*MW-18*	*MW-18*	*MW-18*	*MW-18*
Sample Date:			*5/10/12*	*5/12/12*	*11/8/12*	*4/26/13*	*12/6/13*	*7/3/14*	*4/16/2010*	*10/20/2010*	*6/23/2011*	*11/15/11*	*11/15/11 Duplicate*	*5/7/12*	*11/5/12*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	6.8	6.2	5.9	5.9	5.9	5.0 U	6.0
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.2	5.5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	220	260	220	190	180	170	370
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	6.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	9.1	5.6	5.0 U	5.0 U	5.0 U	5.9
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	170	33	75	13	13	36	8.5
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	51	45	46	6.4	6.2	37	2.8
Tetrachloroethane	µg/L	98						5.0 U							
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	453	361.8	352.5	215.3	205.1	243	393
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	–	–	–	–	17500	17200	18000	17000	17000	–	–
Ferrous iron	µg/L	NC	–	–	–	–	–	–	4730	100 U	2100	100 U	100 U	–	–
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	250 U	250 U	250 U	250 U	250 U	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–				–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–				–	–
Sulfate	µg/L	NC	–	–	–	–	–	–	8170	7600	10000 U	7100	7200	–	–
Sulfide	µg/L	NC	–	–	–	–	–	–	–	–				–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21	MW-21
Sample Name:			DUP-1105	MW-18	DUP-0423	MW-18	DUP-1204	MW-18	GW041910SAG010	GW102610TRH108	MW-21	MW-21	MW-21	MW-21	MW-21
Sample Date:			11/5/12	4/23/13	4/23/13	12/4/13	12/4/13	7/2/14	4/19/2010	10/26/2010	6/17/2011	11/17/11	5/8/12	11/5/12	4/23/13
			Duplicate												
Parameters	**Units**	**Type 4 RRS**													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	6.6	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.4	5.1	5.0 U
1,1-Dichloroethene	µg/L	524	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	9.0	7.2	5.8	8	14	12	12
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10	7.4	5.9	5.0 U	5.8	7.7	7.2
cis-1,2-Dichloroethene	µg/L	204	390	80	84	170	150	120	24	16	18	5.0 U	18	27	30
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	7.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	10	29	29	27	25	26	520	400	450	190	390	490	440
Vinyl chloride	µg/L	3.27	2.8	16	18	2.0 U	2.0 U	20	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98						5.0 U							
Total chlorinated VOCs	µg/L	NC	422	125	131	197	175	166	563	430.6	479.7	198	433	542	489
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	–	–	–	–	16600	18500	17000	9300	–	–	–
Ferrous iron	µg/L	NC	–	–	–	–	–	–	100 U	100 U	100 U	100 U	–	–	–
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	250 U	7380	6300	2500	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–			–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–			–	–	–
Sulfate	µg/L	NC	–	–	–	–	–	–	6250	5190	11000	10000	–	–	–
Sulfide	µg/L	NC	–	–	–	–	–	–	–	–			–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-21*	*MW-21*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-30*	*MW-30*
Sample Name:			*MW-21*	*MW-21*	*GW042210DJB123*	*GW102610TRH104*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*MW-22*	*GW041610DJB101*	*GW101910DJB004*
Sample Date:			*12/5/13*	*7/1/14*	*4/22/2010*	*10/26/2010*	*6/23/2011*	*11/18/11*	*5/9/12*	*11/8/12*	*4/26/13*	*12/5/13*	*7/2/14*	*4/16/2010*	*10/19/2010*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	16	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	61	340	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98		5.0 U									5.0 U		
Total chlorinated VOCs	µg/L	NC	61	379	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	8950	10300	12000	6300	–	–	–	–	–	14400	14300
Ferrous iron	µg/L	NC	–	–	8630	10400	100 U	100 U	–	–	–	–	–	100 U	100 U
Nitrate (as N)	µg/L	NC	–	–	250 U	250 U	–	–	–	–	–	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	–	–	1000 U	1000 U	1000 U	1000 U	–	–	–	–	–	2110 U	1600
Sulfide	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-30*	*MW-30*	*MW-30*	*MW-30*	*MW-30*	*MW-30*	*MW-30*	*MW-30*	*MW-35*	*MW-35*	*MW-35*	*MW-35*	*MW-35*
Sample Name:			*MW-30*	*DUP*	*MW-30*	*MW-30*	*MW-30*	*MW-30*	*MW-30*	*MW-30*	*GW042210SAG014*	*GW102710TRH112*	*MW-35*	*MW-35*	*MW-35*
Sample Date:			*6/23/2011*	*6/23/2011*	*11/15/11*	*5/7/12*	*11/5/12*	*4/23/13*	*12/4/13*	*7/2/14*	*4/22/2010*	*10/27/2010*	*7/22/2011*	*11/18/11*	*11/18/11*
				Duplicate											*Duplicate*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98								5.0 U					
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC				–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	15000	15000	17000	–	–	–	–	–	9070	6330	11000	8100	8100
Ferrous iron	µg/L	NC	100 U	100 U	100 U	–	–	–	–	–	8230	40000	100 U	1370	1370
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	1700	1800	1500	–	–	–	–	–	14900	20500	22000	29000	29000
Sulfide	µg/L	NC				–	–	–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-35*	*MW-35*	*MW-35*	*MW-35*	*MW-35*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*
Sample Name:			*MW-35*	*MW-35*	*MW-35*	*MW-35*	*MW-35*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*	*MW-39*
Sample Date:			*5/10/12*	*11/8/12*	*4/26/13*	*12/6/13*	*7/3/14*	*3/11/2011*	*4/1/2011*	*6/23/2011*	*11/15/11*	*5/8/12*	*11/7/12*	*4/24/13*	*12/4/13*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	42	94	2500 U	2500 U	25000 U	2500 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	98	73	2500 U	2500 U	25000 U	2500 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	1500	940	2500 U	2500 U	25000 U	2500 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5000	5300	7200	4300	5500	4900	25000 U	4300
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	25000 U	50000 U	50 U	50 U	25000 U	25000 U	50000 U	25000 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	5.0 U	5.0 U	2500 U	2500 U	25000 U	2500 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	5000 U	10000 U	10 U	10 U	2500 U	2500 U	25000 U	2500 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	12	9.0	2500 U	2500 U	25000 U	2500 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	2400	1500	2500 U	2500 U	25000 U	2500 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	5.0 U	5.0 U	2500 U	2500 U	25000 U	2500 U
Toluene	µg/L	5241	320	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	8.0	5.0 U	2500 U	2500 U	25000 U	2500 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U	5000 U	24	14	2500 U	2500 U	25000 U	2500 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	180000	290000	240000 J	250000	200,000	230,000	200,000	240000
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1000 U	2000 U	370 J	190	1000 U	1000 U	10000 U	1000 U
Tetrachloroethane	µg/L	98					5.0 U					2500 U	2500 U	25000 U	2500 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	185000	295300	251654	257111	255,000	234,900	200,000	244,300
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	–	–	–			58000	55000	–	–	–	–
Ferrous iron	µg/L	NC	–	–	–	–	–			100 U	100 U	–	–	–	–
Nitrate (as N)	µg/L	NC	–	–	–	–	–			920	500	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–					–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–					–	–	–	–
Sulfate	µg/L	NC	–	–	–	–	–			120000	110000	–	–	–	–
Sulfide	µg/L	NC	–	–	–	–	–					–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*MW-39*	*MW-40*	*MW-40*	*MW-40*	*MW-40*	*MW-40*	*MW-40*	*MW-41*	*MW-41*	*MW-41*	*MW-41*	*MW-41*	*MW-41*
Sample Name:			*MW-39*	*MW-40*	*MW-40*	*MW-40*	*MW-40*	*MW-40*	*MW-40*	*MW-41*	*MW-41*	*MW-41*	*MW-41*	*MW-41*	*MW-41*
Sample Date:			*7/2/14*	*2/1/12*	*5/8/12*	*11/7/12*	*4/24/13*	*12/4/13*	*7/1/14*	*2/1/12*	*5/8/12*	*11/7/12*	*4/24/13*	*12/4/13*	*7/1/14*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	25000 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	25000 U	6.3	6.1	7.6	7.6	10	16	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	25000 U	53	62	60	50	34	36	5.0 U	38	46	33	24	23
1,1-Dichloroethene	µg/L	524	25000 U	75	77	98	67	38	42	38	44	68	46	27	24
Acetone	µg/L	45620	50000 U	50 U	50 U	50 U	50 U	50 U	50 U	51	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	25000 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	25000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	25000 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	25000 U	1200	1800	2500	1800	1700	1500	880	1200	1400	1200	1100	880
Methyl tert butyl ether (MTBE)	µg/L	263	25000 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	25000 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	25000 U	8.9	12	8.5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	200,000	2100	2200	1400	940	1400	2100	3500	3900	5900	2400	3800	2600
Vinyl chloride	µg/L	3.27	10000 U	1500	15	19	26	59	100	3.8	4.3	5.5	6.7	3.4	6.8
Tetrachloroethane	µg/L	98	25000 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	8.1	9.8	12	7.1	12	7.3
Total chlorinated VOCs	µg/L	NC	200,000	4943	4172	4093	2891	3241	3794	4481	5196	7432	3693	4966	3741
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ferrous iron	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfide	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
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their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			MW-42	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	OEW-2
Sample Name:			MW-42	GW042110DJB118	GW102610TRH105	OEW-1	OEW-1	OEW-1	OEW-1	OEW-1	DUP-0426	OEW-1	DUP-1206	OEW-1	GW042210DJB122
Sample Date:			7/2/14	4/21/2010	10/26/2010	6/17/2011	11/17/11	5/10/12	11/8/12	4/26/13	4/26/13	12/6/13	12/6/13	7/2/14	4/22/2010
Parameters	**Units**	**Type 4 RRS**													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	98	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	210	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	14
1,1-Dichloroethene	µg/L	524	170	4.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	13
Acetone	µg/L	45620	50 U	20 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	39	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	230	210	190	85	120	79	130	110	82	79	110	150
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	13	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	6.3	1100
Vinyl chloride	µg/L	3.27	29	24	29	33	32	42	38	45	31	28	31	28	7.4
Tetrachloroethane	µg/L	98	5.0 U											5.0 U	
Total chlorinated VOCs	µg/L	NC	546	271.4	239	223	117	162	117	175	141	110	110	152	1284.4
Gas															
Ethane	µg/L	NC	–	–	–										–
Ethene	µg/L	NC	–	–	–										–
Methane	µg/L	NC	–	–	–										–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–			–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	20200	23500	20000	22000	–	–	–	–	–	–	–	17100
Ferrous iron	µg/L	NC	–	32000	27800	15500	2940	–	–	–	–	–	–	–	1070
Nitrate (as N)	µg/L	NC	–	–	–			–	–	–	–	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–			–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–			–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	–	1530 U	1220 U	10000 U	1000 U	–	–	–	–	–	–	–	3470 U
Sulfide	µg/L	NC	–	–	–			–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
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their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			OEW-2	OEW-2	OEW-2	OEW-2	OEW-2	OEW-2	OEW-2	OEW-2	OEW-3	OEW-3	OEW-3	OEW-3	OEW-3
Sample Name:			GW102210DJB016	OEW-2	OEW-2	OEW-2	OEW-2	OEW-2	OEW-2	OEW-2	GW042110DJB116	GW102710SAG028	GW102710SAG029	OEW-3	OEW-3
Sample Date:			10/22/2010	6/17/2011	11/17/11	5/8/12	11/7/12	4/24/13	12/5/13	7/1/14	4/21/2010	10/27/2010	10/27/2010 Duplicate	6/17/2011	11/17/11
Parameters	*Units*	*Type 4 RRS*													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	16	9.1	9.0	7.2	9.1	6.1	6.5	5.2	5.6	7.9	6.6	5.0 U	5.9
1,1-Dichloroethene	µg/L	524	13	8.6	6.2	5.0 U	5.8	5.0 U	5.0 U	5.0 U	5.8	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	20 U	50 U	50 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	250	220	230	260	300	190	260	200	15	6.2	7.0	9.4	5.8
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	840	640	430	330	430	250	300	300	24	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	26	15	28	18	24	14	22	15	13	9.9	12	7.2	6.3
Tetrachloroethane	µg/L	98								5.0 U					
Total chlorinated VOCs	µg/L	NC	1145	892.7	703.2	615	769	460	589	520	63.4	24	25.6	16.6	18
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–			–	–	–	–	–	–	–	–		
Chloride	µg/L	NC	18300	20000	18000	–	–	–	–	–	13200	16200	16300	19000	18000
Ferrous iron	µg/L	NC	13600	2200	232	–	–	–	–	–	1340	3920	4590	1510	100 U
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–		
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–		
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–		
Sulfate	µg/L	NC	2100	10000 U	1200	–	–	–	–	–	21700	20100	20000	11000	7700
Sulfide	µg/L	NC	–			–	–	–	–	–	–	–	–		

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
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their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*OEW-3*	*OEW-3*	*OEW-3*	*OEW-3*	*OEW-3*	*OEW-3*	*TP-1*	*TP-1*	*TP-1*	*TP-1*	*TP-1*	*TP-1*	*TP-1*
Sample Name:			*OEW-3*	*OEW-3*	*OEW-3*	*OEW-3*	*OEW-3*	*OEW-3*	*GW042110DJB115*	*GW102710TRH109*	*GW102710TRH110*	*TP-1*	*DUP-01*	*TP-1*	*TP-1*
Sample Date:			*11/17/11*	*5/8/12*	*11/8/12*	*4/26/13*	*12/5/13*	*7/1/14*	*4/21/2010*	*10/27/2010*	*10/27/2010*	*6/17/2011*	*6/17/2011*	*11/15/11*	*5/8/12*
			Duplicate								*Duplicate*		*Duplicate*		
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	22	31	32	24	26	21	29
1,1-Dichloroethane	µg/L	4000	5.0 U	5.1	7.6	5.0 U	5.0 U	5.0 U	11	12	14	7.9	8.4	8.5	12
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	7.3	6.8	9.3	7.0	8.5	8.8	5.0 U
Acetone	µg/L	45620	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	31	46	48	30	32	36	51
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	9.9	10	20	20	79	91	96	86	91	81	9.2
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	3000	4100	4600	3900	3500	3600	620
Vinyl chloride	µg/L	3.27	6.1	4.3	9.0	10	11	19	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethane	µg/L	98						5.0 U						5.0 U	5.0 U
Total chlorinated VOCs	µg/L	NC	6.1	9.4	27	20	31	39	3150.3	4292	4799.3	4054.9	3665.9	3755.3	721
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC		–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	18000	–	–	–	–	–	27300	36300	36300	37000	35000	40000	–
Ferrous iron	µg/L	NC	100 U	–	–	–	–	–	100 U	100 U	100 U	100 U	100 U	100 U	–
Nitrate (as N)	µg/L	NC		–	–	–	–	–	15400	19000	19700	18000	17000	18000	–
Nitrite (as N)	µg/L	NC		–	–	–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC		–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	7700	–	–	–	–	–	26400	20100	20800	18000	18000	18000	–
Sulfide	µg/L	NC		–	–	–	–	–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*TP-1*	*TP-1*	*TP-1*	*TP-1*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-3*
Sample Name:			*TP-1*	*TP-1*	*TP-1*	*TP-1*	*GW102610TRH107*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-2*	*TP-3*
Sample Date:			*11/5/12*	*4/23/13*	*12/4/13*	*7/1/14*	*10/26/2010*	*6/17/2011*	*11/17/11*	*5/8/12*	*11/5/12*	*4/23/13*	*12/5/13*	*7/1/14*	*3/11/2011*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1300
1,1,2-Trichloroethane	µg/L	5	28	22	20	19	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	11	9.3	7.3	7.5	22	20	17	26	22	19	14	16	450
1,1-Dichloroethene	µg/L	524	8.6	9.5	5.2	5.0 U	83	150	110	160	110	140	55	79	910
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	33
Chloroform (Trichloromethane)	µg/L	100	39	29	24	26	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	110	99	88	110	53	51	39	41	51	40	45	43	40
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	3800	2600	2800	2400	1200	1500	850	1700	1200	910	710	900	510
Vinyl chloride	µg/L	3.27	2.8	2.9	2.0 U	3.8	5.7	6.4	7.0	5.3	7.1	7.9	4.9	6.3	8.4
Tetrachloroethane	µg/L	98	5.0 U	5.0 U	5.0 U	5.0 U								5.0 U	
Total chlorinated VOCs	µg/L	NC	3999	2772	2945	2566	1363.7	1727.4	1023	1932	1390	1117	829	1044	3251.4
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	–	–	12100	14000	14000	–	–	–	–	–	–
Ferrous iron	µg/L	NC	–	–	–	–	100 U	100 U	100 U	–	–	–	–	–	–
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	–	–	–	–	24300	20000	21000	–	–	–	–	–	–
Sulfide	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-4*	*TP-4*	*TP-4 (*)*	*TP-4*	*TP-4*	*TP-4*
Sample Name:			*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-3*	*TP-4*	*TP-4*	*TP-4*	*TP-4*	*TP-4*	*TP-4*
Sample Date:			*6/23/2011*	*11/15/11*	*5/8/12*	*11/5/12*	*4/24/13*	*12/4/13*	*7/2/14*	*3/11/2011*	*6/23/2011*	*7/22/11*	*11/15/11*	*5/9/12*	*11/8/12*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	1300	1500	1600	1100	840	760	540	24	1400	12000	26000	16000	390
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	5 U
1,1-Dichloroethane	µg/L	4000	420	300	530	520	390	430	470	5.8	430	4300	5300	3700	100
1,1-Dichloroethene	µg/L	524	1200	710	1200	1200	1700	970	1000	11	270	2500	2700	2200	71
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	56	5.0 U	5.0 U	5.0 U	2500 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
Chloroethane	µg/L	29200	34	17	15	14	20	11	11	10 U	16	180	120	500 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	60	58	56	67	37	49	55	5.0 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	5.0 U
Trichloroethene	µg/L	5.24	890	860	880	890	510	520	590	14	5.0 U	5.0 U	5.0 U	250 U	5.0 U
Vinyl chloride	µg/L	3.27	14	11	11	16	15	10	13	2.0 U	2.0 U	16	5.4	100 U	2.0 U
Tetrachloroethane	µg/L	98							5.0 U						
Total chlorinated VOCs	µg/L	NC	3918	3456	4292	3807	3512	2750	2679	110.8	2116	18996	34125.4	21,900	561
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	19000	21000	–	–	–	–	–	–	26000	26000	63000	–	–
Ferrous iron	µg/L	NC	100 U	100 U	–	–	–	–	–	–	100 U	100 U	100 U	–	–
Nitrate (as N)	µg/L	NC	250 U	–	–	–	–	–	–	–	250 U	250 U	250 U	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	7800	7600	–	–	–	–	–	–	3900	3900	1700	–	–
Sulfide	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*TP-4*	*TP-4*	*TP-4*	*TP-5*	*TP-5*	*TP-5*	*TP-5*	*TP-5*	*TP-5*	*TP-6*	*TP-6*	*TP-6*	*TP-6*
Sample Name:			*TP-4*	*TP-4*	*TP-4*	*TP-5*	*TP-5*	*TP-5*	*TP-5*	*TP-5*	*TP-5*	*TP-6*	*TP-6*	*DUP-0509*	*TP-6*
Sample Date:			*4/24/13*	*12/4/13*	*7/2/14*	*2/1/12*	*5/9/12*	*11/8/12*	*4/24/13*	*12/4/13*	*7/2/14*	*2/1/12*	*5/9/12*	*5/9/12*	*11/8/12*
Parameters	***Units***	***Type 4 RRS***													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	13600	7.5	330	1900	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1100	1600	1700	11000
1,1,2-Trichloroethane	µg/L	5	5 U	5 U	5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.6	130	650	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1100	1100	1200	4400
1,1-Dichloroethene	µg/L	524	6.1	59	260	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	710	640	630	2500
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	5.0 U	5.0 U	5.0 U	1000 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	27	25	27	200 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	30	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	3.5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	8.3	5.3	6.0	40 U
Tetrachloroethane	µg/L	98			5.0 U										
Total chlorinated VOCs	µg/L	NC	19	519	3113	ND	ND	ND	ND	ND	ND	2945	3370	3563	17900
Gas															
Ethane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethene	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Methane	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals															
Iron (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Wet Chemistry															
Ammonia	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride	µg/L	NC	–	–	–	–	–	–	–	–	–	63000	–	–	–
Ferrous iron	µg/L	NC	–	–	–	–	–	–	–	–	–	100 U	–	–	–
Nitrate (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	250 U	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Orthophosphate	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfate	µg/L	NC	–	–	–	–	–	–	–	–	–	1700	–	–	–
Sulfide	µg/L	NC	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 5
SUMMARY OF DETECTED COMPOUNDS - OVERBURDEN MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:			*TP-6*	*TP-6*	*TP-6*
Sample Name:			*TP-6*	*TP-6*	*TP-6*
Sample Date:			*4/24/13*	*12/4/13*	*7/2/14*
Parameters	***Units***	***Type 4 RRS***			
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	13600	4500	490	670
1,1,2-Trichloroethane	µg/L	5	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	3300	640	470
1,1-Dichloroethene	µg/L	524	2200	420	370
Acetone	µg/L	45620	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	89	23	30
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	19	7.7	8.1
Tetrachloroethane	µg/L	98			5.0 U
Total chlorinated VOCs	µg/L	NC	10108	1581	1548
Gas					
Ethane	µg/L	NC	–	–	–
Ethene	µg/L	NC	–	–	–
Methane	µg/L	NC	–	–	–
Metals					
Iron (dissolved)	µg/L	NC	–	–	–
Manganese (dissolved)	µg/L	NC	–	–	–
Wet Chemistry					
Ammonia	µg/L	NC	–	–	–
Chloride	µg/L	NC	–	–	–
Ferrous iron	µg/L	NC	–	–	–
Nitrate (as N)	µg/L	NC	–	–	–
Nitrite (as N)	µg/L	NC	–	–	–
Orthophosphate	µg/L	NC	–	–	–
Sulfate	µg/L	NC	–	–	–
Sulfide	µg/L	NC	–	–	–

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"–" Not analyzed
ND - not detected
230
their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-14*	*MW-14*	*MW-14*	*MW-14*	*MW-14*	*MW-14*	*MW-14*	*MW-14*	*MW-19*	*MW-19*	*MW-19*
Sample Name:			*G-042010DJB112*	*GW102710SAG025*	*MW-14*	*MW-14*	*MW-14*	*MW-14*	*MW-14*	*MW-14*	*GW041910DJB106*	*GW102210DJB013*	*MW-19*
Sample Date:			*4/20/2010*	*10/27/2010*	*6/23/2011*	*11/18/11*	*5/9/12*	*11/5/12*	*4/24/13*	*7/2/14*	*4/19/2010*	*10/22/2010*	*6/23/2011*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	8.4	19	5.5
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.5	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	35	79	26
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	43.4	103.5	31.5
Wet Chemistry													
Chloride	µg/L	NC	10400	12000	13000	11000	--	--	--	--	14800	14300	14000
Ferrous iron	µg/L	NC	100 U	100 U	100 U	100 U	--	--	--	--	100 U	100 U	100 U
Nitrate (as N)	µg/L	NC	--	--			--	--	--	--	--	--	
Nitrite (as N)	µg/L	NC	--	--			--	--	--	--	--	--	
Orthophosphate	µg/L	NC	--	--			--	--	--	--	--	--	
Sulfate	µg/L	NC	9870	9840	9500	8200	--	--	--	--	13300	12600	14000

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-19*	*MW-19*	*MW-19*	*MW-19*	*MW-19*	*MW-19*	*MW-19*	*MW-20*	*MW-20*	*MW-20*	*MW-20*
Sample Name:			*MW-19*	*MW-19*	*MW-19*	*MW-19*	*MW-19*	*DUP-1205*	*MW-19*	*GW042010DJB110*	*GW102610TRH106*	*MW-20*	*MW-20*
Sample Date:			*11/15/11*	*5/7/12*	*11/7/12*	*4/24/13*	*12/5/13*	*12/5/13*	*7/2/14*	*4/20/2010*	*10/26/2010*	*6/17/2011*	*11/15/11*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	6.8	5.7
1,1-Dichloroethene	µg/L	524	5.0 U	13	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	37	19	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	29	55	19	11	14	15	15	5.0 U	5.0 U	5.0 U	12
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	29	68	19	11	14	15	15	37	19	6.8	17.7
Wet Chemistry													
Chloride	µg/L	NC	14000	-	-	-	-	-	-	13700	15100	16000	15000
Ferrous iron	µg/L	NC	100 U	-	-	-	-	-	-	937	614	100 U	100 U
Nitrate (as N)	µg/L	NC		-	-	-	-	-	-	--	250 U		
Nitrite (as N)	µg/L	NC		-	-	-	-	-	-	--	--		
Orthophosphate	µg/L	NC		-	-	-	-	-	-	--	--		
Sulfate	µg/L	NC	12000	-	-	-	-	-	-	1650	1000 U	2800	1900

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-20*	*MW-20*	*MW-20*	*MW-20*	*MW-20*	*MW-23*	*MW-23*	*MW-23*	*MW-23*	*MW-23*	*MW-23*
Sample Name:			*MW-20*	*MW-20*	*MW-20*	*MW-20*	*MW-20*	*GW042010DJB111*	*GW102010DJB012*	*MW-23*	*DUP-3*	*MW-23*	*MW-23*
Sample Date:			*5/8/12*	*11/5/12*	*4/23/13*	*12/5/13*	*7/1/14*	*4/20/2010*	*10/20/2010*	*6/24/2011*	*6/24/2011 Duplicate*	*11/15/11*	*5/9/12*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	6.3	8.8	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	6.3	8.8	ND	ND	ND	ND	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	--	--	--	--	--	10300	12100	15000	13000	12000	--
Ferrous iron	µg/L	NC	--	--	--	--	--	174	162	100 U	100 U	100 U	--
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--				--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--				--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--				--
Sulfate	µg/L	NC	--	--	--	--	--	13500	14500	15000	15000	13000	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-23*	*MW-23*	*MW-23*	*MW-23*	*MW-24*	*MW-24*	*MW-24*	*MW-24*	*MW-24*	*MW-24*	*MW-24*
Sample Name:			*MW-23*	*MW-23*	*MW-23*	*MW-23*	*GW042110DJB119*	*GW102610SAG024*	*MW-24*	*MW-24*	*MW-24*	*MW-24*	*MW-24*
Sample Date:			*11/5/12*	*4/23/13*	*12/4/13*	*7/1/14*	*4/21/2010*	*10/26/2010*	*6/17/2011*	*11/17/11*	*5/8/12*	*11/7//12*	*4/24/13*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	20 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	--	--	--	--	8670	2440	9300	9000	--	--	--
Ferrous iron	µg/L	NC	--	--	--	--	500 U	107	100 U	100 U	--	--	--
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	--	--	--	--	12900	10200	8800	8800	--	--	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-24*	*MW-24*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*
Sample Name:			*MW-24*	*MW-24*	*GW042010DJB114*	*GW102010DJB010*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*	*MW-26*
Sample Date:			*12/5/13*	*7/1/14*	*4/20/2010*	*10/20/2010*	*6/23/2011*	*11/15/11*	*5/9/12*	*11/5/12*	*4/23/13*	*12/4/13*	*7/2/14*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	--	--	12700	13400	7900	26000	--	--	--	--	--
Ferrous iron	µg/L	NC	--	--	100 U	268	100 U	100 U	--	--	--	--	--
Nitrate (as N)	µg/L	NC	--	--	--	--			--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--			--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--			--	--	--	--	--
Sulfate	µg/L	NC	--	--	19300	15700	12000	4200	--	--	--	--	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-28*	*MW-28*
Sample Name:			*GW041910SAG008*	*GW102510SAG018*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*MW-27*	*GW041910DJB108*	*GW102610SAG022*
Sample Date:			*4/19/2010*	*10/25/2010*	*6/17/2011*	*11/17/11*	*5/8/12*	*11/7/12*	*4/23/13*	*12/4/13*	*7/1/14*	*4/19/2010*	*10/26/2010*
Parameters	***Units***	***Type 4 RRS***											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	8.1	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	42	39
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	50.1	39
Wet Chemistry													
Chloride	µg/L	NC	14700	13900	16000	14000	--	--	--	--	--	13100	14900
Ferrous iron	µg/L	NC	100 U	100 U	100 U	100 U	--	--	--	--	--	100 U	100 U
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	14200	12600	13000	13000	--	--	--	--	--	10900	9610

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-28*	*MW-28*	*MW-28*	*MW-28*	*MW-28*	*MW-28*	*MW-28*	*MW-29*	*MW-29*	*MW-29*	*MW-29*
Sample Name:			*MW-28*	*MW-28*	*MW-28*	*MW-28*	*MW-28*	*MW-28*	*MW-28*	*GW042210SAG013*	*GW102610SAG020*	*MW-29*	*MW-29*
Sample Date:			*6/17/2011*	*11/15/11*	*5/9/12*	*11/8/12*	*4/24/13*	*12/5/13*	*7/1/14*	*4/22/2010*	*10/26/2010*	*6/23/2011*	*11/17/11*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.8	5.0 U	6.0	6.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	40	47	45	43	16	25	19	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	45.8	47	51	43	16	25	19	ND	ND	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	15000	14000	--	--	--	--	--	6860	7140	6900	6700
Ferrous iron	µg/L	NC	100 U	100 U	--	--	--	--	--	100 U	100 U	100 U	100 U
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	8400	7900	--	--	--	--	--	4890	4750	4900	3900

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-29*	*MW-29*	*MW-29*	*MW-29*	*MW-29*	*MW-31*	*MW-31*	*MW-31*	*MW-31*	*MW-31*	*MW-31*
Sample Name:			*MW-29*	*MW-29*	*MW-29*	*MW-29*	*MW-29*	*GW041610DJB102*	*GW101910DJB005*	*MW-31*	*MW-31*	*MW-31*	*MW-31*
Sample Date:			*5/8/12*	*11/5/12*	*4/24/13*	*12/4/13*	*7/2/14*	*4/16/2010*	*10/19/2010*	*6/23/2011*	*11/15/11*	*5/7/12*	*11/5/12*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	24	21	19	16	15	15
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	11	10	5.0 U	5.6	5.0 U	6.4
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	6.9	8.3	6.3	3.5	4.8	3.3
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	41.9	39.3	25.3	25.1	19.8	25
Wet Chemistry													
Chloride	µg/L	NC	--	--	--	--	--	17800	17600	18000	17000	-	-
Ferrous iron	µg/L	NC	--	--	--	--	--	1170	4620	1520	1550	-	-
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	-	-
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	-	-
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	-	-
Sulfate	µg/L	NC	--	--	--	--	--	2490 U	2060	1100	1400	-	-

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-31*	*MW-31*	*MW-31*	*MW-32*	*MW-32*	*MW-32*	*MW-32*	*MW-32*	*MW-32*	*MW-32*	*MW-32*
Sample Name:			*MW-31*	*MW-31*	*MW-31*	*GW041610SAG003*	*GW102010DJB008*	*MW-32*	*MW-32*	*MW-32*	*DUP-0507*	*MW-32*	*MW-32*
Sample Date:			*4/23/13*	*12/4/13*	*7/2/14*	*4/16/2010*	*10/20/2010*	*6/23/2011*	*11/15/11*	*5/7/12*	*5/7/12*	*11/5/12*	*4/23/13*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	9.2	6.8	5.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	59	46	32	16	13	13	9.3	5.8
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	12	5.0 U	9.6	18	15	11	7.6	9.5	8.9	10	10
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.2	5.0 U	5.0 U	370	300	250	190	190	190	200	110
Vinyl chloride	µg/L	3.27	2.7	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	20	ND	9.6	456.2	367.8	298.4	213.6	213	212	219	117
Wet Chemistry													
Chloride	µg/L	NC	-	-	-	16800	16100	16000	15000	--	--	--	--
Ferrous iron	µg/L	NC	-	-	-	100 U	100 U	100 U	100 U	--	--	--	--
Nitrate (as N)	µg/L	NC	-	-	-	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	-	-	-	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	-	-	-	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	-	-	-	9130	10600	11000	9600	--	--	--	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-32*	*MW-32*	*MW-33*	*MW-33*	*MW-33*	*MW-33*	*MW-33*	*MW-33*	*MW-33*	*MW-33*	*MW-33*
Sample Name:			*MW-32*	*MW-32*	*GW041610DJB103*	*GW041610DJB104*	*GW101910DJB006*	*MW-33*	*MW-33*	*MW-33*	*MW-33*	*MW-33*	*MW-33*
Sample Date:			*12/4/13*	*7/2/14*	*4/16/2010*	*4/16/2010* *Duplicate*	*10/19/2010*	*6/23/2011*	*11/15/11*	*5/7/12*	*11/5/12*	*4/23/13*	*12/4/13*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.7	33	34	29	30	23	24	19	18	13
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	76	110	29	28	27	19	16	14	12	9.7	8.1
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	76	116	62	62	56	49	39	38	31	28	21
Wet Chemistry													
Chloride	µg/L	NC	--	--	17200	17100	16000	17000	15000	--	--	--	--
Ferrous iron	µg/L	NC	--	--	100 U	100 U	100 U	100 U	100 U	--	--	--	--
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	--	--	18600	19400	18800	22000	19000	--	--	--	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-33*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-36*
Sample Name:			*MW-33*	*GW041610DJB105*	*GW102010DJB007*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*MW-34*	*GW042210SAG015*
Sample Date:			*7/2/14*	*4/16/2010*	*10/20/2010*	*6/23/2011*	*11/15/11*	*5/7/12*	*11/5/12*	*4/23/13*	*12/4/13*	*12/4/13*	*4/22/2010*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	14	14	5.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	7.4	23	14	14	11	12	11	9.8	6.5	8.4	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	21.4	37	19.4	14	11	12	11	10	7	8.4	ND
Wet Chemistry													
Chloride	µg/L	NC	--	15000	14500	15000	14000	--	--	--	--	--	3990
Ferrous iron	µg/L	NC	--	100 U	100 U	100 U	100 U	--	--	--	--	--	100 U
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	--	20100	24800	25000	23000	--	--	--	--	--	8400

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-37*	*MW-37*
Sample Name:			*GW042210SAG016*	*GW102710TRH111*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*MW-36*	*GW041610SAG002*	*GW101910DJB002*
Sample Date:			*4/22/2010*	*10/27/2010*	*6/24/2011*	*11/18/11*	*5/10/12*	*11/8/12*	*4/26/13*	*12/6/13*	*7/3/14*	*4/16/2010*	*10/19/2010*
			Duplicate										
Parameters	***Units***	***Type 4 RRS***											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	59	75
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	1910	2870	3300	2400	--	--	--	--	--	12100	11100
Ferrous iron	µg/L	NC	100 U	100 U	100 U	100 U	--	--	--	--	--	112	100 U
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	7610	7400	7800	6200	--	--	--	--	--	29300	28200

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-38*	*MW-38*	*MW-38*
Sample Name:			*GW101910DJB003*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*MW-37*	*GW41610SAG001*	*GW101910DJB001*	*MW-38*
Sample Date:			*10/19/2010*	*6/23/2011*	*11/15/11*	*5/7/12*	*11/5/12*	*4/23/13*	*12/4/13*	*12/4/13*	*4/16/2010*	*10/19/2010*	*6/23/2011*
			Duplicate										
Parameters	***Units***	***Type 4 RRS***											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	76	15	19	35	34	54	30	23	49	55	61
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	10900	12000	12000	--	--	--	--	--	11800	12600	11000
Ferrous iron	µg/L	NC	100 U	100 U	100 U	--	--	--	--	--	100 U	100 U	100 U
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	
Sulfate	µg/L	NC	28000	7500	3400	--	--	--	--	--	22600	26900	26000

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*MW-38*	*MW-38*	*MW-38*	*MW-38*	*MW-38*	*MW-38*	*BEW-1*	*BEW-1*	*BEW-1*	*BEW-1*	*BEW-1*
Sample Name:			*MW-38*	*MW-38*	*MW-38*	*MW-38*	*MW-38*	*MW-38*	*GW042210DJB121*	*GW102210DJB015*	*BEW-1*	*BEW-1*	*BEW-1*
Sample Date:			*11/15/11*	*5/7/12*	*11/5/12*	*4/23/13*	*4/23/13*	*4/23/13*	*4/22/2010*	*10/22/2010*	*6/17/2011*	*11/17/11*	*5/8/12*
Parameters	***Units***	***Type 4 RRS***											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.8	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	130	5.0	9.1	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	38	64	58	58	53	45	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	59	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	ND	ND	194.8	5	9.1	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	20000	--	--	--	--	--	16300	35000	34000	34000	--
Ferrous iron	µg/L	NC	100 U	--	--	--	--	--	2890	100 U	100 U	100 U	--
Nitrate (as N)	µg/L	NC		--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC		--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC		--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	24000	--	--	--	--	--	4940	1000 U	1000 U	1000 U	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*BEW-1*	*BEW-1*	*BEW-1*	*BEW-1*	*BEW-2*	*BEW-2*	*BEW-2*	*BEW-2*	*BEW-2*	*BEW-2*	*BEW-2*
Sample Name:			*BEW-1*	*BEW-1*	*BEW-1*	*BEW-1*	*GW042110DJB117*	*GW102710SAG027*	*BEW-2*	*BEW-2*	*BEW-2*	*BEW-2*	*BEW-2*
Sample Date:			*11/8/12*	*4/26/13*	*12/5/13*	*7/1/14*	*4/21/2010*	*10/27/2010*	*6/17/2011*	*11/18/11*	*5/10/12*	*11/8/12*	*4/26/13*
Parameters	*Units*	*Type 4 RRS*											
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U	50 U	50 U	20 U	50 U	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U	5.0 U	5.0 U	6.6	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U	2.0 U	2.0 U	2.3	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND	ND	ND	8.9	ND	ND	ND	ND	ND	ND
Wet Chemistry													
Chloride	µg/L	NC	--	--	--	--	13100	21000	21000	21000	--	--	--
Ferrous iron	µg/L	NC	--	--	--	--	22300	100 U	100 U	100 U	--	--	--
Nitrate (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	µg/L	NC	--	--	--	--	--	--	--	--	--	--	--
Sulfate	µg/L	NC	--	--	--	--	4390	1000 U	10000 U	10000 U	--	--	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 6
SUMMARY OF DETECTED COMPOUNDS - BEDROCK MONITORING WELLS
SOUTHERN STATES,LLC.
HAMPTON, GEORGIA

Location ID:			*BEW-2*	*BEW-2*
Sample Name:			*BEW-2*	*BEW-2*
Sample Date:			*12/5/13*	*7/1/14*
Parameters	*Units*	*Type 4 RRS*		
Volatile Organic Compounds				
1,1,1-Trichloroethane	µg/L	13600	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	4000	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	524	5.0 U	5.0 U
Acetone	µg/L	45620	50 U	50 U
Carbon tetrachloride	µg/L	10.2	5.0 U	5.0 U
Chloroethane	µg/L	29200	10 U	10 U
Chloroform (Trichloromethane)	µg/L	100	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	204	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	µg/L	263	5.0 U	5.0 U
Toluene	µg/L	5241	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	2044	5.0 U	5.0 U
Trichloroethene	µg/L	5.24	5.0 U	5.0 U
Vinyl chloride	µg/L	3.27	2.0 U	2.0 U
Total chlorinated VOCs	µg/L	NC	ND	ND
Wet Chemistry				
Chloride	µg/L	NC	--	--
Ferrous iron	µg/L	NC	--	--
Nitrate (as N)	µg/L	NC	--	--
Nitrite (as N)	µg/L	NC	--	--
Orthophosphate	µg/L	NC	--	--
Sulfate	µg/L	NC	--	--

Notes:
ug/L - micrograms per liter
NC - No established criteria (remediation goal)
5.0 U - not detected at associated method reporting limit
100 UJ - estimated result reported below associated reporting limit
"--" Not analyzed
ND - not detected
230 results reported above their respective remediation goals

TABLE 7
SUMMARY OF DETECTED ANALYTES IN SEDIMENT
SOUTHERN STATES, LLC
HAMPTON, GEORGIA

			Little Bear Creek						
Parameters	***Units***	***Sediment Screening Benchmarks***	SED-1	SED-2	SED-3	SED-3-12	SED-3-3	SED-7	SED-8
Date			1/12/2012	1/12/2012	1/12/2012	2/2/2012	3/30/2012	2/2/2012	3/30/2012
Volatile Organic Compounds									
1,1,1-Trichloroethane	ug/kg	30.2	BDL	BDL	BDL	NT	NT	NT	NT
1,1-Dichloroethane	ug/kg	--	BDL	BDL	BDL	NT	NT	NT	NT
1,1-Dichloroethene	ug/kg	31	BDL	BDL	BDL	NT	NT	NT	NT
cis-1,2-DCE	ug/kg	--	BDL	8.3	BDL	NT	NT	NT	NT
Toluene	ug/kg	--	BDL	BDL	BDL	NT	NT	NT	NT
Tetracholoroethene	ug/kg	468	BDL	BDL	BDL	NT	NT	NT	NT
Trichloroethene	ug/kg	96.9	BDL	4.8	BDL	NT	NT	NT	NT
Xylenes	ug/kg	25.2	BDL	BDL	BDL	NT	NT	NT	NT
Vinyl chloride	ug/kg	--	BDL	BDL	BDL	NT	NT	NT	NT
PCBs									
Arochlor-1016	mg/kg	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1221	mg/kg	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1232	mg/kg	--	BDL	0.28	BDL	BDL	BDL	BDL	BDL
Arochlor-1242	mg/kg	--	BDL	BDL	0.73	1.7	0.27	BDL	BDL
Arochlor-1248	mg/kg	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arochlor-1254	mg/kg	--	BDL	BDL	BDL	BDL	0.19	BDL	BDL
Arochlor-1260	mg/kg	--	BDL	BDL	BDL	0.11	0.12	BDL	BDL
Total PCBS	mg/kg	0.0598	BDL	**0.28**	**0.73**	**1.81**	**0.58**	BDL	BDL

			Fire Protection Pond	
Parameters	***Units***		SED-5	SED-6
Date			1/12/2012	1/12/2012
PCBs				
Arochlor-1016	mg/kg	--	BDL	BDL
Arochlor-1221	mg/kg	--	BDL	BDL
Arochlor-1232	mg/kg	--	BDL	BDL
Arochlor-1242	mg/kg	--	BDL	BDL
Arochlor-1248	mg/kg	--	BDL	BDL
Arochlor-1254	mg/kg	--	BDL	BDL
Arochlor-1260	mg/kg	--	BDL	BDL
Total PCBS	mg/kg	0.0598	BDL	BDL

Data in bold indicate exceedance of the screening benchmark

TABLE 8
SUMMARY OF DETECTED ANALYTES IN SURFACE WATER
SOUTHERN STATES, LLC
HAMPTON, GEORGIA

Parameters	*Units*	SW-1	SW-2	SW-3	SW-4
Date		1/12/2012	1/12/2012	1/12/2012	1/12/2012
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	BDL	BDL	BDL	BDL
1,1-Dichloroethane [(2)]	µg/L	BDL	BDL	BDL	BDL
1,1-Dichloroethene [(2)]	µg/L	BDL	BDL	BDL	BDL
Chloroethane	µg/L	BDL	BDL	BDL	BDL
Trichloroethene	µg/L	BDL	BDL	BDL	BDL
Vinyl chloride	µg/L	BDL	BDL	BDL	BDL
Arochlor-1016	µg/L	BDL	BDL	BDL	BDL
Arochlor-1221	µg/L	BDL	BDL	BDL	BDL
Arochlor-1232	µg/L	BDL	BDL	BDL	BDL
Arochlor-1242	µg/L	BDL	BDL	BDL	BDL
Arochlor-1248	µg/L	BDL	BDL	BDL	BDL
Arochlor-1254	µg/L	BDL	BDL	BDL	BDL
Arochlor-1260	µg/L	BDL	BDL	BDL	BDL
Total PCBS	µg/L	BDL	BDL	BDL	BDL

APPENDIX A
VRP APPLICATION AND PAYMENT

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	Southern States, LLC				
CONTACT PERSON/TITLE	David Shelley, CFO				
ADDRESS	30 Georgia Avenue Hampton, GA 30028				
PHONE	770-946-4562	FAX	770-946-8106	E-MAIL	David.Shelley@SouthernStatesLLC.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP					
NAME	John O. Schwaller, P.G.			GA PE/PG NUMBER	1617
COMPANY	Environmental Management Associates, LLC				
ADDRESS	5262 Belle Wood Ct, Suite A, Buford, GA 30518				
PHONE	770 271-4628	FAX	770 271-8944	E-MAIL	jschwaller@emallc.net

APPLICANT'S CERTIFICATION

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

(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
- (C) A facility required to have a permit under Code Section 12-8-66.

(3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or similar authorization from the United States Environmental Protection Agency.
(4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by the director pursuant to Code Section 12-8-94 or Code Section 12-13-6.

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

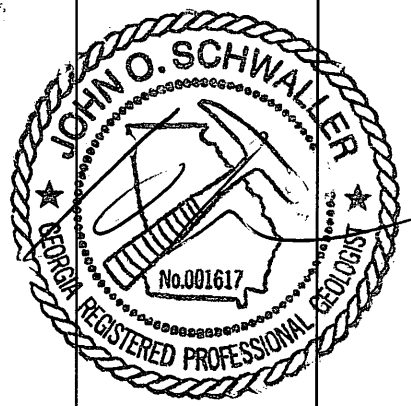
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage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

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

APPLICANT'S SIGNATURE			
APPLICANT'S NAME/TITLE (PRINT)	David Shelley/CFO	DATE	10/30/2014

QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form)			
HAZARDOUS SITE INVENTORY INFORMATION (if applicable)			
HSI Number	10141	Date HSI Site listed	1990
HSI Facility Name	Southern States	NAICS CODE	335313
PROPERTY INFORMATION			
TAX PARCEL ID	H03-05010000	PROPERTY SIZE (ACRES)	30 acres
PROPERTY ADDRESS	30 Georgia Avenue		
CITY	Hampton	COUNTY	Henry
STATE	GA	ZIPCODE	30228
LATITUDE (decimal format)	N33.3853	LONGITUDE (decimal format)	W-84.2891
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Southern States, LLC	PHONE #	770-946-4562
MAILING ADDRESS	30 Georgia Avenue		
CITY	Hampton	STATE/ZIPCODE	GA/30228

ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES. (PLEASE LIST CHECK DATE AND CHECK NUMBER IN COLUMN TITLED "LOCATION IN VRP." PLEASE DO NOT INCLUDE A SCANNED COPY OF CHECK IN ELECTRONIC COPY OF APPLICATION.)	**Check No. 103294** **Date – 10/31/2014**	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	**App B**	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	**App B**	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	**Attached**	
5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and	**Sections 3 - 5, Figures 1 thru 16**	

	after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule. The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:		
5.a.	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;	**Complete Section 3**	
5.b.	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;	**Complete Section 3**	
5.c.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and	**Complete Section 3**	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	**App E**	
6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances. Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." John O. Schwaller / PG 1617 Printed Name and GA PE/PG Number 10/30/14 Date Signature and Stamp	**App A**	

ADDITIONAL QUALIFYING PROPERTIES (COPY THIS PAGE AS NEEDED)

PROPERTY INFORMATION			
TAX PARCEL ID	008-01001000	PROPERTY SIZE (ACRES)	34.8
PROPERTY ADDRESS			
CITY	Hampton	COUNTY	Henry
STATE	GA	ZIPCODE	30028
LATITUDE (decimal format)	33.3879	LONGITUDE (decimal format)	-84.2943
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Southern States, LLC	PHONE #	770-946-4562
MAILING ADDRESS	30 Georgia Avenue		
CITY	Hampton	STATE/ZIPCODE	GA 30228

PROPERTY INFORMATION			
TAX PARCEL ID	022-01060000	PROPERTY SIZE (ACRES)	13.8
PROPERTY ADDRESS			
CITY	Hampton	COUNTY	Henry
STATE	GA	ZIPCODE	30228
LATITUDE (decimal format)	33.3889	LONGITUDE (decimal format)	-84.2936
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Southern States, LLC	PHONE #	770-946-4562
MAILING ADDRESS	30 Georgia Avenue		
CITY	Hampton	STATE/ZIPCODE	GA 30228

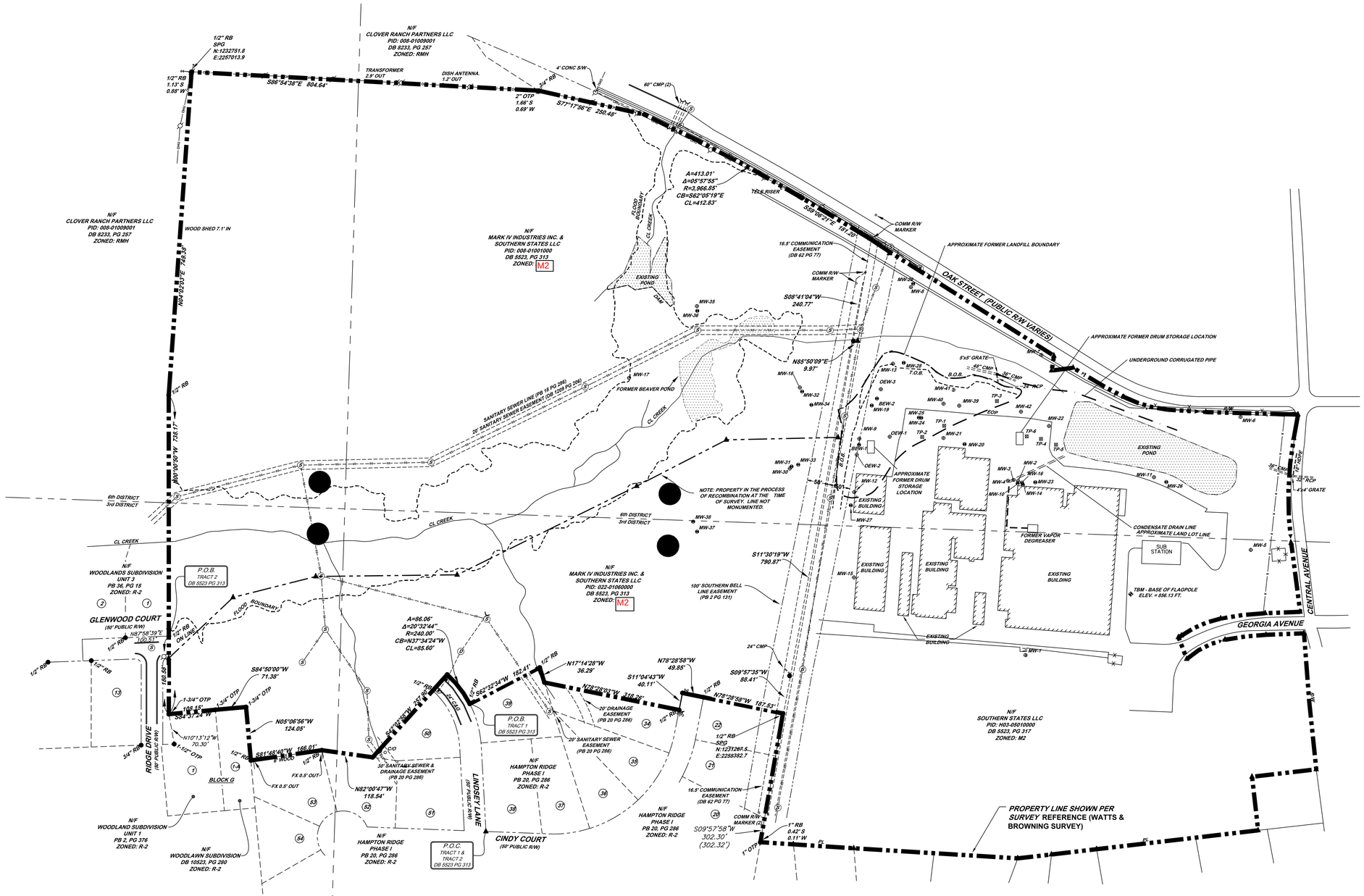
PROPERTY INFORMATION			
TAX PARCEL ID		PROPERTY SIZE (ACRES)	
PROPERTY ADDRESS			
CITY		COUNTY	
STATE		ZIPCODE	
LATITUDE (decimal format)		LONGITUDE (decimal format)	
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)		PHONE #	
MAILING ADDRESS			
CITY		STATE/ZIPCODE	

PG OVERSIGHT SUMMARY
SOUTHERN STATES, LLC
HAMPTON, GEORGIA

PG Summary Time	Units	Unit Cost	Sub-total
8/1/14 - 10/30/14	Hours	$125	
VRP Report/Figures/Tables	45	$125	$5,625

APPENDIX B

PROPERTY MAP / TAX PARCEL MAP, AND WARRANTY DEED



LEGEND

- Property Line
- Chain Link Fence
- MW-11 Overburden Monitoring Well
- MW-11 Bedrock Monitoring Well
- TP-3 Temporary Piezometer
- TOB Top of Embankment
- EOP Edge of Pavement

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012

0 60 120ft

Title	PROPERTY PLAN
Site	SOUTHERN STATES, LLC Hampton, Georgia
EMA Environmental Management Associates, LLC	Facility ID:
	Figure 1

Title	TAX PARCEL MAP
Site	SOUTHERN STATES, LLC Hampton, Georgia
EMA *Environmental Management Associates, LLC*	Facility ID.
	Figure

05523
00317

BOOK 5523 PAGE 317

DOC# 060420
FILED IN OFFICE
12/13/2002
02:06:46PM
BK:05523 PG:0317-
JUDITH A. LEWIS 324
CLERK OF SUPERIOR COURT
HENRY COUNTY, GA

After recording, return to:
Robert F. Cook, Esq.
Womble Carlyle Sandridge & Rice, PLLC
One Atlantic Center, Suite 3500
1201 W. Peachtree Street
Atlanta, Georgia 30309

REAL ESTATE TRANSFER TAX
HENRY COUNTY
SUPERIOR COURT
DEC 13 2002
PAID $ 863.00
CLERK OF SUPERIOR COURT

STATE OF GEORGIA

COUNTY OF Henry

LIMITED WARRANTY DEED

THIS INDENTURE, made as of the 31st day of December, 2002, between SOUTHERN STATES HOLDINGS, INC., successor by name change to SOUTHERN STATES, INC., as party or parties of the first part, hereinafter called Grantor, and SOUTHERN STATES, LLC, as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH that: Grantor, for and in consideration of other good and valuable considerations and the sum of Ten and no/100 ($10.00) Dollars in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee, all that tract or parcel of land being more particularly described on Exhibit "A" attached hereto and incorporated herein by this reference.

This conveyance is made subject to those matters set forth on Exhibit "B" attached hereto and incorporated herein by this reference.

TO HAVE AND TO HOLD the said tract or parcel of land, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee forever in FEE SIMPLE.

x1

AND THE SAID Grantor will warrant and forever defend the right and title to the above described property unto the said Grantee against the claims of all persons claiming by, through or under Grantor.

IN WITNESS WHEREOF, the Grantor has signed and sealed this deed, the day and year written below.

Signed, sealed and delivered in the presence of:

Robert F. Cook
Unofficial Witness

Melissa A. Ertler
Notary Public

My Commission Expires:

[NOTARIAL SEAL]

MELISSA A ERTLER NOTARY PUBLIC DEKALB COUNTY GEORGIA EXPIRES FEB. 11, 2008

SOUTHERN STATES HOLDINGS, INC., successor by name change to Southern States, Inc.

By: Rajesh Anand
Name: RAJ ANAND
Title: PRESIDENT CEO

Exhibit "A"
Legal Description

All that tract or parcel of land lying and being in Land Lot 112 of the 3rd District and Land Lot 250 of the 6th District of Henry County, Georgia and being more particularly described as follows:

BEGINNING at an iron pin found at the intersection formed by the southerly right-of-way of Oak Street (50 foot right-of-way) and the westerly right-of-way of Central Avenue (50 foot right-of-way) and running thence southerly along the westerly right-of-way of Central Avenue (50 foot right-of-way) the following courses and distances: South 10 degrees 16 minutes 35 seconds West, 60.20 feet; thence along the arc of a curve to the left a distance of 244.04 feet (said arc having a chord distance of 243.07 feet on a bearing of South 01 degrees 25 minutes 43 seconds West and a radius of 790.164 feet); running thence South 07 degrees 25 minutes 10 seconds East a distance of 160.53 feet to the intersection formed by the westerly right-of-way of Central Avenue (50 foot right-of-way) and the northerly right-of-way of Georgia Avenue (50 foot right-of-way) running thence westerly along the northerly right-of-way of Georgia Avenue (50 foot right-of-way) the following courses and distances: South 87 degrees 45 minutes 07 seconds West a distance of 80.94 feet; running thence along the arc of a curve to the left a distance of 103.67 feet (said arc having a chord distance of 103.56 feet on a bearing of South 83 degrees 08 minutes 12 seconds West and a radius of 643.494 feet); running thence along the arc of a curve to the left a distance of 99.97 feet (said arc having a chord distance of 99.25 feet on a bearing of South 66 degrees 31 minutes 24 seconds West and a radius of 238.711 feet); running thence along the arc of a curve to the right a distance of 7.80 feet to the western terminus of Georgia Avenue (said arc having a chord distance of 7.78 feet on a bearing of South 61 degrees 46 minutes 25 seconds West and a radius of 30.832 feet); running thence South 20 degrees 58 minutes 41 seconds East along the western terminus of Georgia Avenue a distance of 53.89 feet to a point on the southerly right-of-way of Georgia Avenue (50 foot right-of-way); running thence easterly along the southerly right-of-way of Georgia Avenue (50 foot right-of-way) the following courses and distances: along the arc of a curve to the right a distance of 100.29 feet (said arc having a chord distance of 99.11 feet on a bearing of North 63 degrees 17 minutes 48 seconds East and a radius of 188.711 feet); running thence along the arc of a curve to the right a distance of 95.62 feet (said arc having a chord distance of 95.51 feet on a bearing of North 83 degrees 08 minutes 12 seconds East and a radius of 593.494 feet); running thence North 87 degrees 45 minutes 07 seconds East a

distance of 87.89 feet to the intersection formed by the northerly right-of-way of Georgia Avenue (50 foot right-of-way) and the westerly right-of-way of Central Avenue (40 foot right-of-way); running thence southerly along the westerly right-of-way of Central Avenue (40 foot right-of-way) and along the arc of a curve to the left a distance of 315.97 feet to an iron pin found (said arc having a chord distance of 315.93 feet on a bearing of South 05 degrees 08 minutes 24 seconds East and a radius of 5700.856 feet); running thence South 83 degrees 24 minutes 20 seconds West, and departing the westerly right-of-way of Central Avenue, a distance of 149.53 feet to an iron pin found; running thence South 06 degrees 25 minutes 26 seconds East a distance of 124.75 feet to an iron pin found; running thence South 83 degrees 21 minutes 28 seconds West a distance of 376.26 feet to an iron pin found; running thence South 83 degrees 19 minutes 14 seconds West a distance of 105.13 feet to an iron pin found; running thence South 83 degrees 28 minutes 48 seconds West a distance of 78.54 feet to an iron pin found; running thence North 86 degrees 28 minutes 45 seconds West a distance of 380.06 feet to an iron pin found; running thence North 86 degrees 16 minutes 01 seconds West a distance of 140.06 feet to an iron pin found; running thence North 86 degrees 15 minutes 01 seconds West a distance of 76.76 feet to an iron pin found; running thence North 09 degrees 58 minutes 04 seconds East a distance of 390.72 feet to a point; running thence North 11 degrees 30 minutes 48 seconds East a distance of 562.89 feet to a point; running thence North 11 degrees 34 minutes 48 seconds East a distance of 227.80 feet to a point; running thence South 85 degrees 26 minutes 48 seconds West a distance of 10.00 feet to a point; running thence North 07 degrees 47 minutes 41 seconds East a distance of 242.18 feet to a point on the southwesterly right-of-way of Oak Street (50 foot right-of-way); running thence southeasterly and easterly along the southwesterly and southerly right-of-way of Oak Street (50 foot right-of-way and variable right-of-way) the following courses and distances: South 59 degrees 04 minutes 15 seconds East a distance of 62.53 feet; running thence South 58 degrees 02 minutes 16 seconds East a distance of 445.80 feet; running thence South 08 degrees 41 minutes 38 seconds West a distance of 40.04 feet; running thence North 82 degrees 43 minutes 52 seconds East a distance of 58.16 feet; running thence South 58 degrees 02 minutes 16 seconds East a distance of 23.29 feet; thence along the arc of a curve to the left a distance of 105.42 feet (said arc having a chord distance of 105.38 feet on a bearing of South 60 degrees 38 minutes 30 seconds East and a radius of 1159.834 feet); running thence along the arc of a curve to the left a distance of 104.16 feet (said arc having a chord distance of 103.58 feet on a bearing of South 73 degrees 44 minutes 53 seconds East and a radius of 284.113 feet); running thence along the arc of a curve to the left a distance of 88.55 feet (said arc having a chord distance of 88.53 feet on a bearing of South 86 degrees 21 minutes 57 seconds East and a radius of 1199.241 feet); running thence South 88 degrees 28 minutes 52

seconds East a distance of 213.88 feet to the westerly right-of-way of Central Avenue (50 foot right-of-way) and the POINT OF BEGINNING.

Said property more accurately described on that certain ALTA/ACSM Land Title Survey dated May 9, 1997, prepared by V.T. Hammond, Georgia Registered Land Surveyor No. 2554, of Watts & Browning Engineers, Inc., and being shown as containing 29.30521 acres of 1,276,535 square feet according to said survey.

EXHIBIT B
Permitted Title Exceptions

1. Ad valorem taxes and assessments for the year 2002 and subsequent years, not yet due and payable, and those taxes and special assessments which are not shown as existing liens by the public records.

2. Easement for Rural Distribution Lines from Ensign Cotton Mills to Georgia Power Company, dated July 25, 1929, recorded in Deed Book 24, Page 314, Henry County, Ga. records.

3. General Permits from Ensign Cotton Mills, Glenn Henderson and Willie Miller to Southern Bell Telephone and Telegraph Company, dated January 7, 1935, recorded in Deed Book 28, at Pages 416 and 417, aforesaid records.

4. Right-of-Way Easement as contained within Quitclaim Deed from Henderson Foundry and Machine Company to Georgia Power Company, dated June 4, 1941, recorded in Deed Book 33, Page 3, aforesaid records.

5. Lease from Henderson Foundry and Machine Company to the Mayor and Council of the City of Hampton, Georgia, dated October 7, 1944, filed June 8, 1948, recorded in Deed Book 39, Page 596, aforesaid records.

6. Easement from Southern States Equipment Corporation, Security National Bank of Greensboro, as Trustee, and Pilot Life Insurance Company, to Atlanta Gas Light Company, dated January 12, 1948, recorded in Deed Book 39, Page 289, aforesaid records.

7. Memorandum of Agreement by and between Central of Georgia Railway Company and Southern States Equipment Corporation, dated March 31, 1958, filed April 14, 1958, recorded in Deed Book 58, Page 102, aforesaid records.

8. Easement for Sewer Line from Southern States Equipment Corporation to City of Hampton, dated July 25, 1959, recorded January 7, 1960, recorded in Deed Book 64, Page 55, aforesaid records.

9. Easement for Sewer Line from Southern States, Inc., successor by name change to SS Acquisition Corp. to City of Hampton, dated July 12, 1990, filed for record August 21, 1990, recorded in Deed Book 1209, Page 206, aforesaid records.

10. Matters disclosed on plat recorded at Plat Book 18, Page 283, aforesaid records, regarding proposed Sanitary Sewer Easement for City of Hampton, dated June 29, 1990.

11. Affidavit Affecting Title by Thomas W. McGarity, "Notification of Listing on the Hazardous Site Inventory of Georgia Environmental Protection Division", dated August 26, 1994, filed September 2, 1994, recorded in Deed Book 1953, Page 86, aforesaid records.

12. Matters disclosed on plat recorded in Plat Book 1, page 97 and Plat Book 2, page 131, aforesaid records.

13. Deed to Secure Debt, Assignment of Leases and Rents and Security Agreement from Southern States, Inc., a Georgia corporation to First Union National Bank of Georgia, dated July 9, 1997, filed July 14, 1997 and recorded in Deed Book 2620, page 4, aforesaid records, as amended and recorded in Deed Book 3865, page 81, aforesaid records.

14. UCC-2 Financing Statement showing Southern States, Inc. as Debtor and First Union National Bank of Georgia as Secured Party, filed July 14, 1998 and recorded in Deed Book 2619, page 349, aforesaid records.

15. UCC Financing Statement number 075-97-1460, showing Debtor: Southern States, Inc. and Secured Party: First Union National Bank of Georgia, as continued at UCC number 75-2002-547, aforesaid records.

16. All matters as shown on plat recorded at Plat Book 1, Page 97, aforesaid records, and on plat dated July 27, 1956, at Plat Book 2, Page 131, aforesaid records, including those facts and conditions as shown on that certain ALTA/ACSM Land Title Survey for Southern States, Inc., delineated by Watts & Browning Engineers, Inc., certified by V.T. Hammond, Georgia RLS No. 2554, dated May 9, 1997, including, but not limited to, the following:
    a. Lake located on subject property;
    b. Pipeline marker, guy-wires and water meter along boundary of subject property parallel to Oak Street:
    c. fence line traversing through subject property. Exception is taken the rights of others in and to the use of that portion of subject property located on the northerly side of the fence line up to the property line;
    d. a 36-inch re-enforced concrete pipe (RCP) entering subject property from right-of-way of Central Avenue leading to Lake located thereon;
    e. numerous light poles, guy-wires, power poles and lines affecting subject property;
    f. old railroad tracks (not in use) leading from easterly side of building known as #30 Georgia Avenue at the land lot line of Land Lots 250 and 112;
    g. a frame building located outside property line depicted at the southeasterly corner of subject property;
    h. power poles, guy wires and lines affecting southerly boundary of subject property;
    i. sanitary sewer manhole affecting southerly boundary as located in the approximately central point of subject property with sewer line indicated running

in a westerly direction to a sanitary sewer manhole located near the westerly property line in the southwesterly corner of subject property, and thence said sanitary sewer line runs parallel with the westerly boundary with other manholes and intersecting a 20-foot sanitary sewer easement, with said sanitary sewer line running across the northwesterly corner thereof;

j. cyclone fence appurtenant to property now or formerly Ben O. Sims to the south of subject property encroaching onto subject property. Exception is taken to the interest of adjoining owners to the use thereof;

k. two separate metal buildings encroaching over the southerly property line of subject property;

l. two separate AT&T 16.5 foot easements with underground cables running in a northerly/southerly direction along portion of the westerly boundary of subject property.

m. a 100-foot Southern Bell Telephone and Telegraph Company line right-of-way affecting the westerly 50-feet of subject property.

n. drop-inlets with a 24-inch RCP, a 36-inch corrugated metal pipe (CMP) and a 48-inch CMP carrying drainage and flow of creek thereto or therefrom. Exception is taken to the uninterrupted flow thereof free from diminution and pollution;

o. water tower located on subject property.

Doc ID: 014616050005 Type: WD
Recorded: 12/06/2010 at 02:23:34 PM
Fee Amt: $143.00 Page 1 of 5
Transfer Tax: $125.00
Henry, GA Clerk of Superior Court
Barbara Harrison Clerk of Court
BK 11943 PG 263-267

After recording, return to:
Sara Blitchington, Paralegal
Womble Carlyle Sandridge & Rice, PLLC
271 17th Street, NW
Suite 2400
Atlanta, GA 30363

STATE OF NEW YORK:

COUNTY OF ERIE: PT-61 075-20 10 - 9939

LIMITED WARRANTY DEED

THIS INDENTURE, made as of the 24 day of November, 2010, between MARK IV INDUSTRIES, INC., a Delaware corporation, as party or parties of the first part, hereinafter called Grantor, and SOUTHERN STATES, LLC, a Georgia limited liability company, as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH that: Grantor, for and in consideration of other good and valuable considerations and the sum of Ten and no/100 ($10.00) Dollars in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee, all that tract or parcel of land being more particularly described on Exhibit "A" attached hereto and incorporated herein by this reference, together with any improvements located thereon, as well as rights, members and appurtenances in any manner appertaining or belonging to said property (collectively, the "Property").

This conveyance is made subject to those matters set forth on Exhibit "B" attached hereto and incorporated herein by this reference.

TO HAVE AND TO HOLD the said tract or parcel of land, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee forever in FEE SIMPLE.

AND THE SAID Grantor will warrant and forever defend the right and title to the above described Property unto the said Grantee against the claims of all persons whomsoever claiming by and through Grantor.

IN WITNESS WHEREOF, the Grantor has signed and sealed this deed, the day and year written below.

Signed, sealed and delivered in the presence of:

Unofficial Witness

Notary Public

[AFFIX NOTARIAL STAMP & SEAL]

Joann E. Eckert
Notary Public - State of New York
No. 01EC6066890
Qualified in Erie County
My Commission Expires 11/26/2013

MARK IV INDUSTRIES, INC, a Delaware corporation

By:
Name: Mark Barbario
Title: CO-CEO & CFO

[CORPORATE SEAL]

SEAL AFFIXED

EXHIBIT A

TRACT I - 13/+ acres

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 81 and 112 of the 3rd District and Land Lot 250 of the 6th District of Henry County, Georgia, being 13. 8527 acres according to a plat of survey for Southern States, Inc., by Boutwell Engineering, Inc., dated June 27, 2000 (the "Plat"), which Plat is incorporated herein by this reference, and being more particularly described as follows:

TO REACH THE TRUE POINT OF BEGINNING, commence at a point located at the intersection of the easterly right-of-way of Lindsey Lane (a 50 foot right-of-way) with the northerly right-of-way of Cindy Court (a 50 foot right-of-way); thence North 04 degrees 56 minutes 35 seconds West a distance of 198.47 feet to a point; thence along the arc of a curve to the left 101.58 feet, subtended by a chord distance of North 17 degrees 21 minutes 32 seconds West 98.44 feet to an iron pin found AND THE TRUE POINT OF BEGINNING; and from such TRUE POINT OF BEGINNING run thence along the arc of a curve to the left 86.34 feet, subtended by a chord distance of North 39 degrees 30 minutes 00 seconds West 85.88 feet to a point; thence South 40 degrees 11 minutes 38 seconds West 257.75 feet to an iron pin found; thence North 83 degrees 52 minutes 07 seconds West 118.45 feet to an iron pin found; thence South 80 degrees 04 minutes 36 seconds West 166.13 feet to an iron pin found; thence North 06 degrees 53 minutes 43 seconds west 124.05 feet to an iron pin found; thence South 83 degrees 02 minutes 39 seconds West 71.42 feet to an iron pin found; thence South 82 degrees 55 minutes 27 seconds West 108.11 feet to an iron pin found; thence North 01 degrees 47 minutes 29 seconds West 129.62 feet to a point; thence in a general easterly direction the following courses and distances: North 44 degrees 53 minutes 12 seconds East 204.85 feet to a point, North 74 degrees 02 minutes 31 seconds East 197.32 feet to a point, North 87 degrees 33 minutes 28 seconds East 327.24 feet to a point, North 61 degrees 56 minutes 36 seconds East 463.62 feet to a point, North 60 degrees 55 minutes 33 seconds East 233.07 feet to a point, North 86 degrees 57 minutes 59 seconds East 258.61 feet to a point; thence South 09 degrees 43 minutes 57 seconds West 562.89 feet to a point; thence South 08 degrees 11 minutes 13 seconds West 88.40 feet to an iron pin found; thence North 80 degrees 16 minutes 03 seconds West 237.38 feet to a point; thence South 09 degrees 43 minutes 57 seconds West 40 feet to an iron pin found; thence North 80 degrees 16 minutes 03 seconds West 317.95 feet to an iron pin found; thence North 19 degrees 02 minutes 28 seconds West 36.25 feet to an iron pin found; thence South 60 degrees 48 minutes 22 seconds West 182.26 feet to an iron pin found at the TRUE POINT OF BEGINNING.

TRACT II – 34/+ acres

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lots 81 and 112 of the 3rd District and Land Lots 250 and 251 of the 6th District of Henry County, Georgia, being 34.8326 acres according to a plat of Survey for Southern States, Inc., by Boutwell Engineering, Inc., dated June 27, 2000 (the "Plat"), which Plat is incorporated herein by this reference, and being more particularly described as follows:

TO REACH THE TRUE POINT OF BEGINNING, commence at a point located at the intersection of the easterly right-of-way of Lindsey Lane (a 50 foot right-of-way) with the northerly right-of-way of Cindy Court (a 50 foot right-of-way) thence North 04 degrees 56 minutes 35 seconds West a distance of 198.47 feet to a point; thence along the arc of a curve to the left 101.58 feet, subtended by a chord distance of North 17 degrees 21 minutes 32 seconds West 98.44 feet to an iron pin found; thence along the arc of a curve to the left 86.34 feet, subtended by a chord distance of North 39 degrees 30 minutes 00 seconds West 85.88 feet to a point; thence South 40 degrees 11 minutes 38 seconds West 257.75 feet to an iron pin found; thence North 83 degrees 52 minutes 07 seconds West 118.45 feet to an iron pin found; thence South 80 degrees 04 minutes 36 seconds West 166.13 feet an iron pin found; thence North 06 degrees 53 minutes 43 seconds West 124.05 feet to an iron pin found; thence South 83 degrees 02 minutes 39 seconds West 71.42 feet to an iron pin found; thence South 82 degrees 55 minutes 27 seconds West 108.11 feet to an iron pin found; thence North 01 degrees 47 minutes 29 seconds West 129.62 feet to the TRUE POINT OF BEGINNING; and from such TRUE POINT OF BEGINNING run thence North 01 degrees 47 minutes 29 seconds West 608.34 feet to an iron pin found; thence North 02 degrees 15 minutes 43 seconds East 749.50 feet to an iron pin found; thence South 88 degrees 40 minutes 58 seconds East 804.76 feet to an iron pin found; thence South 79 degrees 04 minutes 18 seconds East 250.46 feet to a point; thence southeasterly along the southwesterly right-of-way of Oak Street (a 50 foot right-of-way) 413.04 feet, subtended by a chord distance of South 63 degrees 51 minutes 41 seconds East 412.80 feet; thence South 60 degrees 52 minutes 43 seconds East along the southwesterly right-of-way of Oak Street 181.19 feet to a point; thence South 06 degrees 54 minutes 42 seconds West 240.75 feet to an iron pin found; thence North 84 degrees 03 minutes 47 seconds East 9.97 feet to an iron pin found; thence South 09 degrees 43 minutes 57 seconds West 227.93 feet to a point; thence in a general westerly direction the following courses and distances South 86 degrees 57 minutes 59 seconds West 258.61 feet, South 60 degrees 55 minutes 33 seconds West 233.07 feet, South 61 degrees 56 minutes 36 seconds West 463.62 feet, South 87 degrees 33 minutes 28 seconds West 327.24 feet, South 74 degrees 02 minutes 31 seconds West 197.32 feet, and South 44 degrees 53 minutes 12 seconds West 204.85 feet to the TRUE POINT OF BEGINNING.

LESS AND EXCEPT property described in that certain Right of Way Deed from Southern States, LLC and Mark IV Industries, Inc. to the City of Hampton, dated May 13, 2005, filed December 27, 2006, recorded in Deed Book 9857, Page 99, Henry County, Georgia, Records.

FURTHER LESS AND EXCEPT property described in that certain Right of Way Deed from Southern States, LLC and Mark IV Industries, Inc. to the City of Hampton, dated May 13, 2005, filed December 27, 2006, recorded in Deed Book 9857, Page 101, Henry County, Georgia, Records.

EXHIBIT "B"

1. All taxes for the year 2010 and subsequent years, not yet due and payable.

2. All matters shown on recorded plats filed in Plat Book 8, Page 137, and Plat Book 15, Page 72, Henry County, Georgia, Records.

3. Easement from Ensign Cotton Mills to Southern Bell Telephone and Telegraph Co., Incorporated, dated January 7, 1935, filed January 15, 1936, recorded in Deed Book 28, Page 416, aforesaid Records.

4. Communications Systems Easement from James W. Walker and Robert Uher to American Telephone and Telegraph Company, dated and filed July 20, 1989, recorded in Deed Book 1082, Page 162, aforesaid Records.

5. Easement for Sewer Line from Tri-County Investors, a Georgia partnership, to City of Hampton, Georgia, dated August 9, 1990, filed August 21, 1990, recorded in Deed Book 1209, Page 208, aforesaid Records.

APPENDIX C
RISK REDUCTION STANDARDS CRITERIA / CALCULATIONS

Risk Reduction Standards

GEPD Rule 391-3-19-.07 allows for the determination of risk reduction standards that are protective of human health. The Type 1 RRS criteria for soils were determined for the Site as follows:

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 of Rule 391-3-19 or, for those substances not listed, the least of the concentrations from items 1 through 3 below.

1) *Concentrations at any point above the uppermost groundwater zone in soil that has been affected by a release shall not exceed the higher of:*

   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 EPD Director that a concentration in soil will not generate leachate concentrations that exceed Type 1 groundwater concentration criteria;*

2) *concentrations which are unlikely to result in any noncancer toxic effects on human health via soil ingestion along with inhalation of particulates and volatiles, determined using Equation 7 of RAGS, Part B, and standard residential exposure assumptions in Table 3 of Appendix III;*

3) *concentrations for which the upper bound on the estimated excess cancer risk is less than or equal to 10^{-5} (10^{-4} for Class C carcinogens) via soil ingestion and inhalation of particulates and volatiles, determined using Equation 6, RAGS, Part B, and standard residential exposure assumptions in Table 3 of Appendix III.*

The Type 1 and 3 RRS criteria for groundwater were determined for the Site as follows:

At any point within any groundwater that has been affected by a release, concentrations of regulated substances in groundwater samples must not exceed concentrations in Table 1 of Appendix III or, for those substances not listed, the background or detection limit concentrations.

The Type 4 RRS criteria for groundwater were determined for the Site as follows:

At any point within any groundwater that has been affected by a release, concentrations of regulated substances in groundwater samples must not exceed the lesser of the values from items 1 and 2 below or, for those substances for which neither calculation can be made, the higher of concentrations in Table 1 of Appendix III, background concentrations, or detection limit concentrations.

1) *concentrations which are unlikely to result in any noncancer toxic effects on human health via ingestion of, or inhalation of volatiles from, groundwater, determined using equation 2 from RAGS, Part B, and site-specific exposure factors for the non-residential use scenario.*

2) *concentrations for which the upper bound on the estimated excess cancer risk is less than or equal to 10^{-5} via ingestion of, and inhalation of volatiles from, groundwater, determined using Equation 1 from RAGS, Part B, and site-specific exposure factors for the non-residential use scenario.*

Risk reduction standards (RRS) are based on risk assessment procedures for standard or site-specific exposure assumptions. The exposure assumptions used by EMA as listed in HSRA Rule Chapter 391-3-19, Appendix III, Table 3 to calculate the RRS are as follow:

Parameter	***Units***	***Type 1***	***Type 3***	***Type 4***
THI, Total Hazard Index	unitless	1	1	1
TR, Target Risk	unitless	10^{-5} for class A & B	10^{-5} for class A & B	10^{-5} for class A & B
BW, body weight	kg	70 (HSRA Rule)	70 (HSRA Rule)	70 (HSRA Rule)
AT, averaging time	years	70 (HSRA Rule)	70 (HSRA Rule)	70 (HSRA Rule)
EF, exposure frequency	days/yr	350 (HSRA Rule)	250 (HSRA Rule)	250 (HSRA Rule)
ED, exposure duration	yr	30 (HSRA Rule)	25 (HSRA Rule)	25 (HSRA Rule)
Ir_w, daily water ingestion rate	L/day	2 (HSRA Rule)	1 (HSRA Rule)	1 (HSRA Rule)
Ir_{soil}, soil ingestion rate	mg/day	114 (HSRA Rule)	50 (HSRA Rule)	50 (HSRA Rule)
Ir_{air}, daily inhalation rate	m^3/day	15 (HSRA Rule)	20 (HSRA Rule)	20 (HSRA Rule)
VF	m^3/kg	Chemical-specific	Chemical-specific	Chemical-specific
PEF, particulate emission factor	m^3/kg	4.63×10^9 (HSRA Rule)	4.63×10^9 (HSRA Rule)	4.63×10^9 (HSRA Rule)
K, water-to-air volatization factor	L/m^3	0.5 (HSRA Rule)	0.5 (HSRA Rule)	0.5 (HSRA Rule)

The toxicity values used for the calculations were from the most recent version of USEPA's Regional Screening Level Summary Table (May 2014) and updated with current Integrated Risk Information System (IRIS) values, where applicable. The soil-to-air volatilization factors (VF) were calculated for volatile compounds using chemical-

specific information presented in USEPA's Regional Screening Level – Chemical-specific Parameters Supporting Table (May 2014) and the standard assumptions listed in the HSRA Rule Chapter 391-3-19, Appendix III, Table 3.

A summary of the calculation results for the Type 1 RRS for soils is included in Table A-1. The individual calculation spreadsheets for the carcinogenic and non-carcinogenic risk-based calculations and soil-to-air volatilization factors (These spreadsheets include the toxicity and exposure assumption values) are presented in Attachment A by analyte. A summary of the calculation results for the Type 1, 3, and 4 RRS for groundwater is included in Table A-2. The individual risk-based calculation spreadsheets are presented in Attachment B by analyte. When the Type 4 RRS was lower than the Type 1/3 RRS, the 1/3 RRS was used as the overall RRS.

TABLE A-1
SUMMARY OF TYPE 1 RRS CRITERIA FOR SOILS

Parameters	*VF-soil-to-air (1)* m^3/kg	HSRA Appendix I Notification Conc. µg/kg	Groundwater Type 1 RRS µg/L	Type 1 GW x 100 µg/kg	Risk-Based Non-carcinogenic Value (2) µg/kg	Risk-Based Carcinogenic Value (3) µg/kg	Risk-Based Soil Type 1 RRS µg/kg	Overall Type 1 RRS µg/kg
Volatile Organic Compounds								
1,1,1-Trichloroethane	1.55E+03	5440	200	20000	1.07E+07	--	1.07E+07	20000
1,1,2-Trichloroethane	8.81E+03	500	5	500	2.45E+03	1.67E+04	2.45E+03	500
1,1-Dichloroethane	2.11E+03	30	4000	400000	1.28E+08	4.21E+04	4.21E+04	42100
1,1-Dichloroethene	8.64E+02	360	7	700	2.38E+05	--	2.38E+05	700
cis-1,2-Dichloroethene	2.74E+03	530	70	7000	1.28E+06	--	1.28E+06	7000
Toluene	5.64E+03	14400	1000	100000	2.22E+07	--	2.22E+07	100000
Tetracholoroethene	2.64E+03	180	5	500	1.42E+05	3.15E+05	1.42E+05	500
Trichloroethene	2.44E+03	130	5	500	6.65E+03	1.82E+04	6.65E+03	500
Xylenes	7.84E+03	20000	10000	1000000	1.08E+06	--	1.08E+06	1000000
Vinyl chloride	5.81E+02	40	2	200	7.75E+04	3.55E+03	3.55E+03	200
PCBs								
Arochlor-1242	NA	1550	0.5	50	7.47E+03	--	7.47E+03	1550
Arochlor-1248	NA	1550	0.5	50	7.47E+03	--	7.47E+03	1550
Arochlor-1254	NA	1550	0.5	50	7.47E+03	1.28E+04	7.47E+03	1550
Arochlor-1260	NA	1550	0.5	50	7.47E+03	--	7.47E+03	1550
Total PCBS	NA	1550	0.5	50	--	--	--	1550

Notes:

(1) VF $= \frac{(LS \times V \times DH)}{A} \times \frac{(3.14 \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times E \times K_{as} \times 10^{-3}\ kg/g)}$

(2) Eq. 7 from RAGS Part B $= \frac{THI \times BW \times AT \times 365}{ED \times EF \times [((1/RfD_o) \times 10^{-6} \times Ir_{soil}) + ((1/RfD_i) \times Ir_{air} \times (1/VF + 1/PEF))]}$

(3) Eq. 6 from RAGS Part B $= \frac{TR \times BW \times AT \times 365}{EF \times ED \times [(Sf_o \times 10^{-6}\ kg/mg \times Ir_{soil}) + (Sf_i \times Ir_{air} \times [1/VF + 1/PEF])]}$

-- No data avialable

TABLE A-2
SUMMARY OF TYPE 1, 3, AND 4 RRS CRITERIA FOR GROUNDWATER

Parameters	Type 1/3 RRS (Appendix III) µg/L	Risk-Based Non-carcinogenic Value (1) µg/L	Risk-Based Carcinogenic Value (2) µg/L	Risk-Based GW Type 4 RRS µg/L	Overall Type 4 RRS µg/L
Volatile Organic Compounds					
1,1,1-Trichloroethane	200	--	1.36E+04	1.36E+04	13600
1,1,2-Trichloroethane [(2)]	5	4.09E+02	4.64E+00	4.64E+00	5
1,1-Dichloroethane [(2)]	4000	2.04E+04	4.64E+01	4.64E+01	4000
1,1-Dichloroethene [(2)]	7	5.24E+02	--	5.24E+02	524
Acetone	4000	4.56E+04	--	4.56E+04	45620
Carbon tetrachloride	5	1.70E+02	1.02E+01	1.02E+01	10.2
Chloroethane	10	2.92E+04	--	2.92E+04	29200
Chloroform (Trichloromethane)	100	2.24E+02	3.42E+00	3.42E+00	100
cis-1,2-Dichloroethene	70	2.04E+02	--	2.04E+02	204
Methyl tert butyl ether (MTBE)	--	8.76E+03	2.63E+02	2.63E+02	263
Toluene	1000	5.24E+03	--	5.24E+03	5241
trans-1,2-Dichloroethene	100	2.04E+03	--	2.04E+03	2044
Tetrachloroethene	5	9.81E+01	2.56E+02	9.81E+01	98
Trichloroethene	5	5.24E+00	1.92E+01	5.24E+00	5.24
Vinyl chloride	2	1.50E+02	3.27E+00	3.27E+00	3.27

Notes:

(1) Eq. 2 from RAGS Part B

$$\frac{THI \times BW \times AT \times 365}{EF \times ED \times [(1/RfD_i \times K \times Ir_a) + (1/RfD_o \times Ir_w)]}$$

(2) Eq. 1 from RAGS Part B

$$\frac{TR \times BW \times AT \times 365}{EF \times ED \times [(Sf_i \times K \times Ir_a) + (SF_0 \times Ir_w)]}$$

-- No data available

ATTACHMENT A

SOIL TOXICITY/VF CALCULATIONS

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	
Sfi, inhalation cancer slope factor	unitless	
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		1.55E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		#DIV/0!
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		#DIV/0!
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/Kg;risk-based)	mg/kg	**#DIV/0!**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	2.00E+00
RfD_i, inhalation chronic reference dose	unitless	1.43E+00
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	1.55E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		1.28E+06
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		1.08E+04
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	1.07E+04
C(mg/kg;risk-based)	**mg/kg**	**1.07E+04**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	5.70E-02
Sfi, inhalation cancer slope factor	unitless	5.60E-02
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		8.81E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		262.131938
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		17.86052701
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	16.721
C(mg/Kg;risk-based)	mg/kg	**1.67E+01**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_{o}, oral chronic reference dose	unitless	4.00E-03
RfD_{i}, inhalation chronic reference dose	unitless	5.71E-05
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	8.81E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		2.56E+03
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		2.45E+00
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	2.45E+00
C(mg/kg;risk-based)	**mg/kg**	**2.45E+00**

Carcinogenic effects *(Commercial/Residential Soil)* : RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	5.70E-03
Sfi, inhalation cancer slope factor	unitless	5.60E-03
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		2.11E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		2621.31938
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		42.83383301
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	42.145
C(mg/Kg;risk-based)	mg/kg	**4.21E+01**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	2.00E-01
RfD_i, inhalation chronic reference dose	unitless	
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	2.11E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		1.28E+05
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		#DIV/0!
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/kg;risk-based)	**mg/kg**	**1.28E+05**

Carcinogenic effects *(Commercial/Residential Soil)* : RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	
Sfi, inhalation cancer slope factor	unitless	
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		8.64E+02
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		#DIV/0!
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		#DIV/0!
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/Kg;risk-based)	mg/kg	**#DIV/0!**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	5.00E-02
RfD_i, inhalation chronic reference dose	unitless	5.71E-02
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	8.64E+02
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		3.20E+04
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		2.40E+02
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	2.38E+02
C(mg/kg;risk-based)	**mg/kg**	**2.38E+02**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	
Sfi, inhalation cancer slope factor	unitless	
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		2.74E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		#DIV/0!
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		#DIV/0!
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/Kg;risk-based)	mg/kg	**#DIV/0!**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	2.00E-03
RfD_i, inhalation chronic reference dose	unitless	
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	2.74E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		1.28E+03
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		#DIV/0!
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/kg;risk-based)	**mg/kg**	**1.28E+03**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	
Sfi, inhalation cancer slope factor	unitless	
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		5.64E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		#DIV/0!
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		#DIV/0!
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/Kg;risk-based)	mg/kg	**#DIV/0!**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	8.00E-02
RfD_i, inhalation chronic reference dose	unitless	1.43E+00
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	5.64E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		5.12E+04
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		3.92E+04
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	2.22E+04
C(mg/kg;risk-based)	**mg/kg**	**2.22E+04**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	2.10E-03
Sfi, inhalation cancer slope factor	unitless	9.10E-04
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		2.64E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		7115.009747
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		329.8781406
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	315.261
C(mg/Kg;risk-based)	mg/kg	**3.15E+02**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	6.00E-03
RfD_i, inhalation chronic reference dose	unitless	1.14E-02
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	2.64E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		3.84E+03
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		1.47E+02
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	1.42E+02
C(mg/kg;risk-based)	**mg/kg**	**1.42E+02**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	4.60E-02
Sfi, inhalation cancer slope factor	unitless	1.44E-02
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
IR_{soil}, soil ingestion rate	m3/day	114
IR_{air}, daily inhalation rate	L/day	15
VF		2.44E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		324.8156623
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		19.33488754
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	18.249
C(mg/Kg;risk-based)	mg/kg	**1.82E+01**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	5.00E-04
RfD_i, inhalation chronic reference dose	unitless	5.71E-04
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	2.44E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		3.20E+02
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		6.79E+00
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	6.65E+00
C(mg/kg;risk-based)	**mg/kg**	**6.65E+00**

Carcinogenic effects *(Commercial/Residential Soil)* : RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	
Sfi, inhalation cancer slope factor	unitless	
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		7.84E+03
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		#DIV/0!
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		#DIV/0!
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/Kg;risk-based)	mg/kg	**#DIV/0!**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	2.00E-01
RfD_i, inhalation chronic reference dose	unitless	2.86E-02
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	7.84E+03
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		1.28E+05
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		1.09E+03
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	1.08E+03
C(mg/kg;risk-based)	**mg/kg**	**1.08E+03**

Carcinogenic effects *(Commercial/Residential Soil)* : RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope facto:	unitless	7.20E-01
Sfi, inhalation cancer slope factor	unitless	1.54E-02
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
IR_{soil}, soil ingestion rate	m3/day	114
IR_{air}, daily inhalation rate	L/day	15
VF		5.81E+02
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		20.75211176
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		4.283950849
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	3.551
C(mg/Kg;risk-based)	mg/kg	**3.55E+00**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	3.00E-03
RfD_i, inhalation chronic reference dose	unitless	2.86E-02
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	5.81E+02
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		1.92E+03
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		8.08E+01
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	7.75E+01
C(mg/kg;risk-based)	**mg/kg**	**7.75E+01**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	2.00E+00
Sfi, inhalation cancer slope factor	unitless	2.00E+00
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		7.470760234
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		2.64E+05
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	7.471
C(mg/Kg;risk-based)	mg/kg	**7.47E+00**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	
RfD_i, inhalation chronic reference dose	unitless	
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		#DIV/0!
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		#DIV/0!
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/kg;risk-based)	**mg/kg**	**#DIV/0!**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	2.00E+00
Sfi, inhalation cancer slope factor	unitless	2.00E+00
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		7.470760234
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		2.64E+05
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	7.471
C(mg/Kg;risk-based)	mg/kg	**7.47E+00**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_{o}, oral chronic reference dose	unitless	
RfD_{i}, inhalation chronic reference dose	unitless	
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	5.34E+05
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		#DIV/0!
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		#DIV/0!
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/kg;risk-based)	**mg/kg**	**#DIV/0!**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	2.00E+00
Sfi, inhalation cancer slope factor	unitless	2.00E+00
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		7.470760234
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		2.64E+05
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	7.471
C(mg/Kg;risk-based)	mg/kg	**7.47E+00**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	2.00E-05
RfD_i, inhalation chronic reference dose	unitless	
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		1.28E+01
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		#DIV/0!
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/kg;risk-based)	**mg/kg**	**1.28E+01**

Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 6

variable	units	Standardized Exposure Assumptions Type 1
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	unitless	2.00E+00
Sfi, inhalation cancer slope factor	unitless	2.00E+00
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Ir_{soil}, soil ingestion rate	m3/day	114
Ir_{air}, daily inhalation rate	L/day	15
VF		
PEF, particulate emsiison factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*1.0E-6*IRsoil)}$		7.470760234
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*IRair*(1/VF+1/PEF))}$		2.64E+05
$\frac{1}{1/RRSo + 1/RRSi}$	mg/kg	7.471
C(mg/Kg;risk-based)	mg/kg	**7.47E+00**

Non-Carcinogenic effects *(Commercial/Residential Soil)*: RAGS equation 7

variable	units	Standardized Exposure Assumptions Type 1
THI, target hazard index	unitless	1
RfD_o, oral chronic reference dose	unitless	2.00E-05
RfD_i, inhalation chronic reference dose	unitless	
BW, body weight	kg	70
AT, averaging time	years	30
EF, exposure frequency	days/yr	350
ED, exposure duration	yr	30
Irsoil, soil ingestion rate	m3/day	114
Irair, daily inhalation rate	L/day	15
VF, soil-to-air volatization factor	m3/kg	9.03E+05
PEF, particulate emission factor	m3/kg	4.63E+09
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo)*1.0E-6*IRsoil}$		1.28E+01
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi)*IRair*(1/VF+1/PEF)}$		#DIV/0!
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/kg	#DIV/0!
C(mg/kg;risk-based)	**mg/kg**	**#DIV/0!**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.006408589
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.04597
D_{ia}, molecular diffusivity	cm^2/s	**6.50E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.79727
H', Henry's law constant	dimensionless	**7.00E-01**
K_d, soil-water partition ceofficient	cm^3/g	8.78E-01
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**4.39E+01**
H, Henry's law constant	atm-m^3/mol	0.0172
	VF	**1.55E+03**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.00026523
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.04730
D_{ia}, molecular diffusivity	cm^2/s	**6.69E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.02775
H', Henry's law constant	dimensionless	**3.37E-02**
K_d, soil-water partition ceofficient	cm^3/g	1.21E+00
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**6.07E+01**
H, Henry's law constant	atm-m^3/mol	0.000824
	VF	**8.81E+03**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.004047004
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.05912
D_{ia}, molecular diffusivity	cm^2/s	**8.36E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.36164
H', Henry's law constant	dimensionless	**2.30E-01**
K_d, soil-water partition ceofficient	cm^3/g	6.36E-01
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**3.18E+01**
H, Henry's law constant	atm-m^3/mol	0.00562
	VF	**2.11E+03**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.015515856
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.06103
D_{ia}, molecular diffusivity	cm^2/s	**8.63E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	1.67767
H', Henry's law constant	dimensionless	**1.07E+00**
K_d, soil-water partition ceofficient	cm^3/g	6.36E-01
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**3.18E+01**
H, Henry's law constant	atm-m^3/mol	0.0261
	VF	**8.64E+02**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.002553915
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.06223
D_{ia}, molecular diffusivity	cm^2/s	**8.80E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.21061
H', Henry's law constant	dimensionless	**1.67E-01**
K_d, soil-water partition ceofficient	cm^3/g	7.92E-01
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**3.96E+01**
H, Henry's law constant	atm-m^3/mol	0.00408
	VF	**2.74E+03**

Toluene

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.000639149
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.05516
D_{ia}, molecular diffusivity	cm^2/s	**7.80E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.05769
H', Henry's law constant	dimensionless	**2.70E-01**
K_d, soil-water partition ceofficient	cm^3/g	4.68E+00
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**2.34E+02**
H, Henry's law constant	atm-m^3/mol	0.00664
	VF	**5.64E+03**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.002565071
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.03569
D_{ia}, molecular diffusivity	cm^2/s	**5.05E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.38110
H', Henry's law constant	dimensionless	**7.24E-01**
K_d, soil-water partition ceofficient	cm^3/g	1.90E+00
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**9.49E+01**
H, Henry's law constant	atm-m^3/mol	0.0177
	VF	**2.64E+03**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.003061947
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.04880
D_{ia}, molecular diffusivity	cm^2/s	**6.90E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.32949
H', Henry's law constant	dimensionless	**4.00E-01**
K_d, soil-water partition ceofficient	cm^3/g	1.21E+00
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**6.07E+01**
H, Henry's law constant	atm-m^3/mol	0.00985
	VF	**2.44E+03**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.000334854
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.05993
D_{ia}, molecular diffusivity	cm^2/s	**8.47E-02**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	0.02765
H', Henry's law constant	dimensionless	**2.12E-01**
K_d, soil-water partition ceofficient	cm^3/g	7.66E+00
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**3.83E+02**
H, Henry's law constant	atm-m^3/mol	0.00664
	VF	**7.84E+03**

VF (Soil-to-Air Volatization Factor)

	Units	Defaults
LS, length of side of contaminated area	(m)	45
V, wind speed (velocity) in mixing zone	(m/s)	2.25
DH, diffusion height	m	2
A, area of contamination	cm^2	2.03E+07
π pi		3.14
α	cm^2/s	0.02627269
T, exposure interval	s	7.90E+08
ρ_s	g/cm^3	2.65
OC, soil organic carbon content fraction	unitless	0.02
D_{ei}, effective diffusivity	cm^2/s	0.07567
D_{ia}, molecular diffusivity	cm^2/s	**1.07E-01**
E, total soil porosity	unitless	3.50E-01
K_{as}, soil/air partition coefficient	g soil/cm^3 air	2.61751
H', Henry's law constant	dimensionless	**1.14E+00**
K_d, soil-water partition ceofficient	cm^3/g	4.34E-01
K_{oc}, organic carbon coefficient	cm^3/g(=L/kg)	**2.17E+01**
H, Henry's law constant	atm-m^3/mol	0.0278
	VF	**5.81E+02**

ATTACHMENT B

GROUNDWATER TOXICITY CALCULATIONS

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day		
Sfi, inhalation cancer slope factor	mg/kg-day		
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**#DIV/0!**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless	2.00E+00	
RfD_{i}, inhalation chronic reference dose	unitless	1.43E+00	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		204.40	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		14.60000	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	13.6267	
C(mg/L;risk-based)	**mg/L**	**1.363E+01**	**Equations are OK**

Carcinogenic effects *(Water)* : RAGS equation 1

1,1,2-TCA

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day	5.70E-02	
Sfi, inhalation cancer slope factor	mg/kg-day	5.60E-02	
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		0.05020	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		5.11E-03	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	4.64E-03	
C(mg/L;risk-based)	**mg/L**	**4.64E-03**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless	4.00E-03	
RfD_{i}, inhalation chronic reference dose	unitless	5.71E-05	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		0.41	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		0.00058	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	0.0006	
C(mg/L;risk-based)	**mg/L**	**4.088E-01**	**Equations are OK**

Carcinogenic effects *(Water)*: RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day	5.70E-03	
Sfi, inhalation cancer slope factor	mg/kg-day	5.60E-03	
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		0.50204	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		5.11E-02	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	4.64E-02	
C(mg/L;risk-based)	**mg/L**	**4.64E-02**	**Equations OK**

Non-carcinogenic effects *(Water)*: RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless	2.00E-01	
RfD_{i}, inhalation chronic reference dose	unitless		
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		20.44	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**2.044E+01**	**Equations are OK**

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day		
Sfi, inhalation cancer slope factor	mg/kg-day		
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**#DIV/0!**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_o, oral chronic reference dose	unitless	5.00E-02	
RfD_i, inhalation chronic reference dose	unitless	5.71E-02	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		5.11	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		0.58400	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	0.5241	
C(mg/L;risk-based)	**mg/L**	**5.241E-01**	**Equations are OK**

Carcinogenic effects *(Water)*: RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day		
Sfi, inhalation cancer slope factor	mg/kg-day		
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**#DIV/0!**	**Equations OK**

Non-carcinogenic effects *(Water)*: RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_o, oral chronic reference dose	unitless	9.00E-01	
RfD_i, inhalation chronic reference dose	unitless	8.86E+00	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		91.98	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		90.52000	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	45.6221	
C(mg/L;risk-based)	**mg/L**	**4.562E+01**	**Equations are OK**

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day	7.00E-02	
Sfi, inhalation cancer slope factor	mg/kg-day	2.10E-02	
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		0.04088	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		1.36E-02	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	1.02E-02	
C(mg/L;risk-based)	**mg/L**	**1.02E-02**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless	4.00E-03	
RfD_{i}, inhalation chronic reference dose	unitless	2.86E-02	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		0.41	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		0.29200	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	0.1703	
C(mg/L;risk-based)	**mg/L**	**1.703E-01**	**Equations are OK**

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day	3.10E-02	
Sfi, inhalation cancer slope factor	mg/kg-day	8.05E-02	
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		0.09231	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		3.55E-03	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	3.42E-03	
C(mg/L;risk-based)	**mg/L**	**3.42E-03**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless	1.00E-02	
RfD_{i}, inhalation chronic reference dose	unitless	2.80E-02	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		1.02	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		0.28616	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	0.2236	
C(mg/L;risk-based)	**mg/L**	**2.236E-01**	**Equations are OK**

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day		
Sfi, inhalation cancer slope factor	mg/kg-day		
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**#DIV/0!**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless		
RfD_{i}, inhalation chronic reference dose	unitless	2.86E+00	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		29.20000	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**2.920E+01**	**Equations are OK**

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day		
Sfi, inhalation cancer slope factor	mg/kg-day		
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**#DIV/0!**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_o, oral chronic reference dose	unitless	2.00E-03	
RfD_i, inhalation chronic reference dose	unitless		
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		0.20	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**2.044E-01**	**Equations are OK**

Carcinogenic effects *(Water)*: RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day	1.80E-03	
Sfi, inhalation cancer slope factor	mg/kg-day	9.10E-04	
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		1.58978	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		3.14E-01	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	2.63E-01	
C(mg/L;risk-based)	**mg/L**	**2.63E-01**	**Equations OK**

Non-carcinogenic effects *(Water)*: RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless		
RfD_{i}, inhalation chronic reference dose	unitless	8.57E-01	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		8.76000	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**8.760E+00**	**Equations are OK**

Carcinogenic effects *(Water)*: RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day		
Sfi, inhalation cancer slope factor	mg/kg-day		
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**#DIV/0!**	**Equations OK**

Non-carcinogenic effects *(Water)*: RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_o, oral chronic reference dose	unitless	8.00E-02	
RfD_i, inhalation chronic reference dose	unitless	1.43E+00	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		8.18	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		14.60000	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	5.2410	
C(mg/L;risk-based)	**mg/L**	**5.241E+00**	**Equations are OK**

Carcinogenic effects *(Water)*: RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day		
Sfi, inhalation cancer slope factor	mg/kg-day		
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		#DIV/0!	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**#DIV/0!**	**Equations OK**

Non-carcinogenic effects *(Water)*: RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless	2.00E-02	
RfD_{i}, inhalation chronic reference dose	unitless	0.00E+00	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		2.04	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		#DIV/0!	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	#DIV/0!	
C(mg/L;risk-based)	**mg/L**	**2.044E+00**	**Equations are OK**

Carcinogenic effects *(Water)*: RAGS equation 1

variable	units	Adult Type 4
TR target excess individual lifetime cancer risk	unitless	0.00001
Sfo, oral cancer slope factor	mg/kg-day	2.10E-03
Sfi, inhalation cancer slope factor	mg/kg-day	9.10E-04
BW, body weight	kg	70
AT, averaging time	years	70
EF, exposure frequency	days/yr	250
ED, exposure duration	yr	25
Ir_{air}, daily inhalation rate	m3/day	20
Ir_{w}, daily water ingestion rate	L/day	1
K, water to air volatization factor	unitless	0.5
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		1.36267
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		3.14E-01
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	2.56E-01
C(mg/L;risk-based)	**mg/L**	**2.56E-01**

Non-carcinogenic effects *(Water)*: RAGS equation 2

variable	units	Adult Type 4
THI, target hazard index	unitless	1
RfD_{o}, oral chronic reference dose	unitless	6.00E-03
RfD_{i}, inhalation chronic reference dose	unitless	1.14E-02
BW, body weight	kg	70
AT, averaging time	years	25
EF, exposure frequency	days/yr	250
ED, exposure duration	yr	25
Ir_{air}, daily inhalatiaon rate	m3/day	20
Ir_{w}, daily water ingestion rate	L/day	1
K, water-to-air volatization factor	unitless	0.5
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		0.61
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		0.11680
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	0.0981
C(mg/L;risk-based)	**mg/L**	**9.811E-02**

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day	4.60E-02	
Sfi, inhalation cancer slope factor	mg/kg-day	1.44E-02	
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		0.06221	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		1.99E-02	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	1.51E-02	
C(mg/L;risk-based)	**mg/L**	**1.51E-02**	**Equations OK**

Non-carcinogenic effects (*Water*) : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_o, oral chronic reference dose	unitless	5.00E-04	
RfD_i, inhalation chronic reference dose	unitless	5.71E-04	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_w, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		0.05	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		0.00584	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	0.0052	
C(mg/L;risk-based)	**mg/L**	**5.241E-03**	**Equations are OK**

Carcinogenic effects *(Water)* : RAGS equation 1

variable	units	Adult Type 4	
TR target excess individual lifetime cancer risk	unitless	0.00001	
Sfo, oral cancer slope factor	mg/kg-day	7.20E-01	
Sfi, inhalation cancer slope factor	mg/kg-day	1.54E-02	
BW, body weight	kg	70	
AT, averaging time	years	70	
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalation rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water to air volatization factor	unitless	0.5	
RRSo $\frac{TR*BW*AT*365}{EF*ED*(Sfo*IRw)}$		0.00397	**Oral**
RRSi $\frac{TR*BW*AT*365}{EF*ED*(Sfi*K*IRair)}$		1.86E-02	**Inhalation**
$\frac{1.0000}{1/RRSo + 1/RRSi}$	mg/L	3.27E-03	
C(mg/L;risk-based)	**mg/L**	**3.27E-03**	**Equations OK**

Non-carcinogenic effects *(Water)* : RAGS equation 2

variable	units	Adult Type 4	
THI, target hazard index	unitless	1	
RfD_{o}, oral chronic reference dose	unitless	3.00E-03	
RfD_{i}, inhalation chronic reference dose	unitless	2.86E-02	
BW, body weight	kg	70	
AT, averaging time	years	25	AT = ED for Non-carcinogens
EF, exposure frequency	days/yr	250	
ED, exposure duration	yr	25	
Ir_{air}, daily inhalatiaon rate	m3/day	20	
Ir_{w}, daily water ingestion rate	L/day	1	
K, water-to-air volatization factor	unitless	0.5	
RRSo $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdo*IRw)}$		0.31	**Oral**
RRSi $\frac{THI*BW*AT*365}{EF*ED*(1/Rfdi*K*IRair)}$		0.29200	**Inhalation**
$\frac{1}{1/RRSo + 1/RRSi}$	mg/L	0.1496	
C(mg/L;risk-based)	**mg/L**	**1.496E-01**	**Equations are OK**

APPENDIX D

HISTORIC INVESTIGATION INFORMATION

D-1: FIGURE 10 & TABLE 5 (EMA Focused Investigation Report, June 25, 2012)

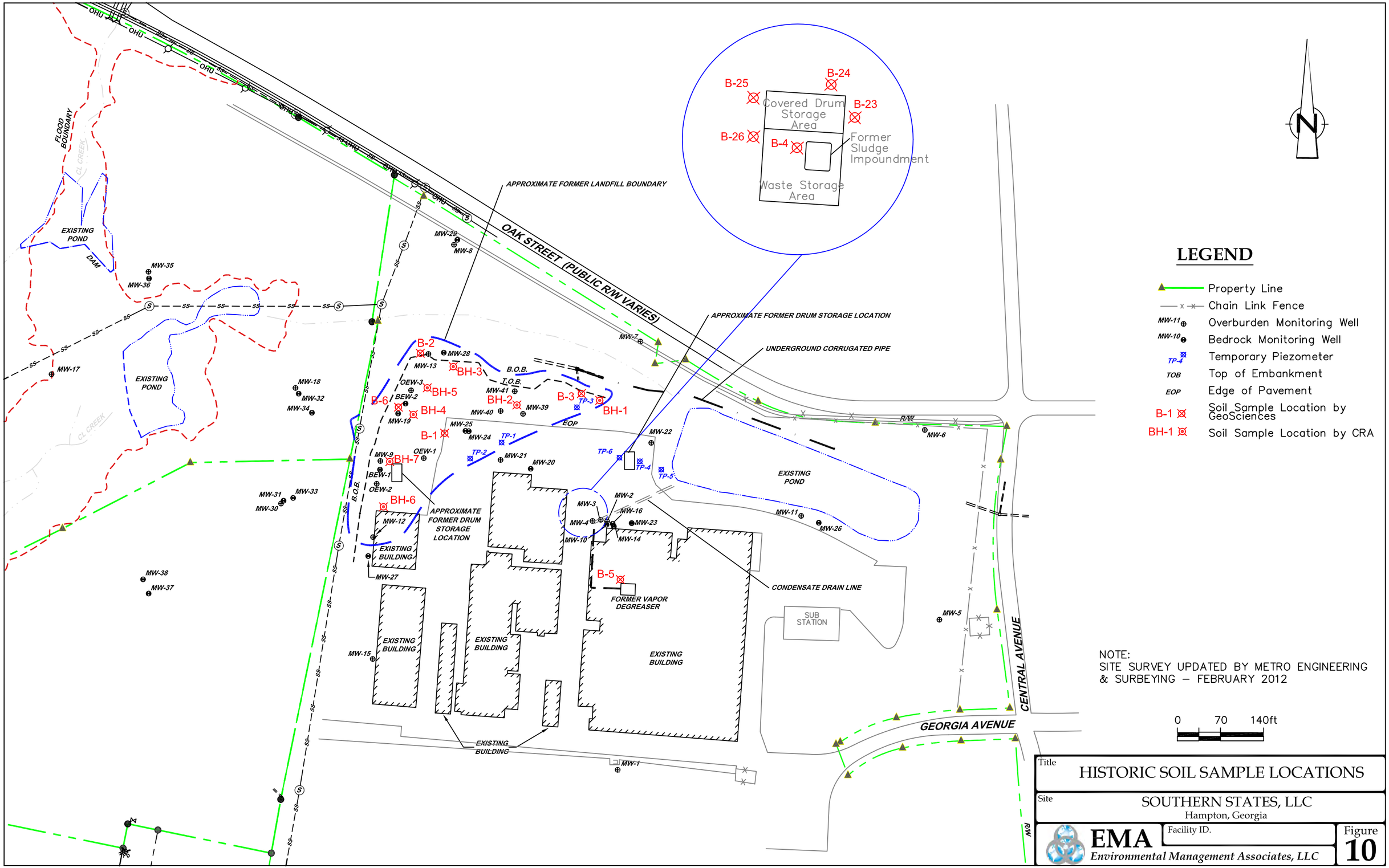
D-2: FIGURE 12 (EMA Focused Investigation Report, June 25, 2012)

D-3: SLUDGE DRYING BED CLOSURE REPORT (Craig-Lynes, 1985)

D-4: CONFIRMATORY SOIL SAMPLE LOCATIONS / GROUNDWATER SAMPLE DATA (EMA, November 2013)

D-5: FIGURE 3 (EMA, Supplemental Investigation Report, July 1, 2014)

D-1: FIGURE 10 & TABLE 5 (EMA Focused Source Investigation Report, June 25, 2012)



NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURBEYING – FEBRUARY 2012

Title: HISTORIC SOIL SAMPLE LOCATIONS

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA
Environmental Management Associates, LLC

Facility ID.

Figure 10

TABLE 5

SUMMARY OF DETECTED COMPOUNDS

SOIL

SOUTHERN STATES, INC.

Compound (µg/kg) [1]	*Date*	*Trichloroethene (TCE)*	*1,1,1-Trichloroethane (TCA)*	*1,1-Dichloroethane (DCA)*	*Acetone*	*Xylenes*	*Carbon Disulfide*	*Toluene*
GeoSciences, Inc. [2]								
B-1-4	9/9/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-2-4	9/9/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-3-1	9/9/93	8	BDL	BDL	BDL	BDL	BDL	6
B-4-1	9/9/93	BDL	BDL	BDL	BDL	12	BDL	21
B-4-5	9/9/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-5-5	9/9/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-20-20	4/8/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-22-10	4/8/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-23-1	8/6/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-23-5	8/6/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-23-10	8/6/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-24-1	8/6/93	29	BDL	6	120	5	BDL	BDL
B-24-5	8/6/93	20	BDL	6	BDL	BDL	BDL	BDL
B-24-10	8/6/93	31	BDL	BDL	BDL	BDL	BDL	BDL
B-25-1	8/6/93	25	BDL	BDL	BDL	BDL	BDL	BDL
B-25-5	8/6/93	420	BDL	BDL	BDL	BDL	16	BDL
B-25-10	8/6/93	79	BDL	25	BDL	BDL	BDL	BDL
B-25-15	8/6/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-26-1	8/6/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-26-5	8/6/93	BDL	BDL	7	BDL	BDL	BDL	BDL
B-26-10	8/6/93	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-27-5	8/1/94	BDL	BDL	BDL	BDL	6	BDL	17
B-27-15	8/1/94	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-27-45	8/1/94	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-28-5	8/3/94	BDL	5	BDL	BDL	6	BDL	17
B-28-15	8/3/94	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 5

SUMMARY OF DETECTED COMPOUNDS
SOIL
SOUTHERN STATES, INC.

Compound (µg/kg) [1]	*Date*	*Trichloroethene (TCE)*	*1,1,1-Trichloroethane (TCA)*	*1,1-Dichloroethane (DCA)*	*Acetone*	*Xylenes*	*Carbon Disulfide*	*Toluene*
B-28-25	8/3/94	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-28-60	8/3/94	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Conestoga-Rovers & Associates [3]								
BH-1	2/26/97	ND (6)	ND (6)	ND (6)	ND (12)	ND (6)	ND (6)	ND (6)
BH-2	2/26/97	ND (6)	ND (6)	ND (6)	ND (12)	ND (6)	ND (6)	ND (6)
BH-3	2/26/97	ND (6)	ND (6)	ND (6)	ND (12)	ND (6)	ND (6)	ND (6)
BH-4	2/26/97	ND (6)	ND (6)	ND (6)	ND (12)	ND (6)	ND (6)	ND (6)
BH-5	2/26/97	ND (6)	ND (6)	ND (6)	ND (12)	ND (6)	ND (6)	ND (6)
BH-6	2/26/97	ND (6)	ND (6)	33	28	ND (6)	ND (6)	ND (6)
BH-7	2/26/97	ND (6)	ND (6)	ND (6)	16	ND (6)	ND (6)	ND (6)
HSRA Standard [4]		130	5,440	30	2,740	20,000	Detection Limit	14,400

Notes:

[1] µg/kg - microgram per kilogram

[2] Sample collection conducted by GeoSciences, Inc.

[3] Sample collection conducted by Conestoga-Rovers & Associates.

BDL - Below quantitation detection limit

ND (5) - Analyte not detected at quantitation limit shown

B-22-10 identifies a sample from boring B-22 at a depth of 10 feet.

B-27-5 and B-28-5 also contained 6 and 7 µg/L of benzene, respectively.

B-27 and B-28 corresponds to monitor wells MW-23 and MW-24.

[4] HSRA - State of Georgia Hazardous Site Response Act

D-2: FIGURE 12 (EMA Focused Source Investigation Report, June 25, 2012)

OAK STREET (PUBLIC R/W VARIES)

APPROXIMATE FORMER LANDFILL BOUNDARY

APPROXIMATE FORMER DRUM STORAGE LOCATION

APPROXIMATE FORMER DRUM STORAGE LOCATION

UNDERGROUND CORRUGATED PIPE

CONDENSATE DRAIN LINE

FORMER VAPOR DEGREASER

FLOOD BOUNDARY

CL CREEK

EXISTING POND

DAM

EXISTING BUILDING

SUB STATION

B.O.B.

T.O.B.

EOP

R/W

CENTRAL AVENUE

GEORGIA AVENUE

SOIL	17–20' BGS
VOC	ND

SOIL	22–25' BGS
VOC	ND

GNDWTR	ug/L
1,1–DCE	6.2

LEGEND

- Property Line
- Chain Link Fence
- MW-11 Overburden Monitoring Well
- MW-10 Bedrock Monitoring Well
- TP-4 Temporary Piezometer
- TOB Top of Embankment
- EOP Edge of Pavement
- MIP-2 Membrane Interface Probe Locations

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURBEYING – FEBRUARY 2012

0 70 140ft

Title: MEMBRANE INTERFACE PROBE / SOIL BORING LOCATIONS

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA Environmental Management Associates, LLC

Facility ID.

Figure 12

D-3: SLUDGE DRYING BED CLOSURE REPORT (CRAIG-LYNES, 1985)

CRAIG-LYNES CHEMICAL MANAGEMENT, INC.

404 EAST ELAMB AVENUE
WEST POINT, MS 39773
601-494-1902

1106 SECOND AVENUE
NASHVILLE, TN 37201

September 19, 1985

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Mark Dickerson
Senior Administrative Law Judge
Department of Natural Resources
Room 812, Trinity-Washington Building
270 Washington Street, S.W.
Atlanta, Georgia 30334

RE: Southern States, Inc.
Administrative Order No. EPD-HW-238

Dear Judge Dickerson:

Please accept this letter as request for hearing with the Environmental Protection Division, Department of Natural Resources. This request is presented within the thirty (30) days of the date of issuance of the Order, August 28, 1985, in order to provide Southern States, Inc. the opportunity to present analytical data that was not previously available. It is the belief of Southern States that this data will have a significant bearing on the requirement for a groundwater monitoring system.

Please see Table 1, attached, for the results of the soil analyses. All results are below the specified levels of contamination given in the Order, even at the one inch depth. For this reason, and the fact that:

a) the structure in question, a sand filter, functioned properly, i. e., separated water from solid matter, and allowed the water to be discharged to the public sewer system; and,

b) according to the geologist's preliminary investigation outlined in the plan for the groundwater monitoring system, the groundwater is located approximately fifteen (15) feet below the surface;

there is no reasonable expectation that filtrate from the sand filter reached the groundwater.

Southern States recognizes those aspects of the Order describing previous deficiencies in compliance with the Georgia Rules for Hazardous Waste Management, and has taken the necessary action to comply with them. Southern States also accepts their responsibility to the community and environment and will do everything to see that necessary action is taken to protect the health and welfare of both. It is our belief, however, that incurring unnecessary expense to satisfy this groundwater monitoring request when there is no reasonable expectation that the water from the filter system ever reached that depth is unreasonable and unwarranted.

We welcome the opportunity to discuss this matter.

Respectfully submitted,

CRAIG-LYNES CHEMICAL MANAGEMENT, INC.

Paul Finger Lynes

Paul Finger Lynes
Vice President

cc: J. Leonard Ledbetter
Robert S. Bomar
Tom O'Toole

Attachment

TABLE 1

RESULTS OF SOIL ANALYSIS

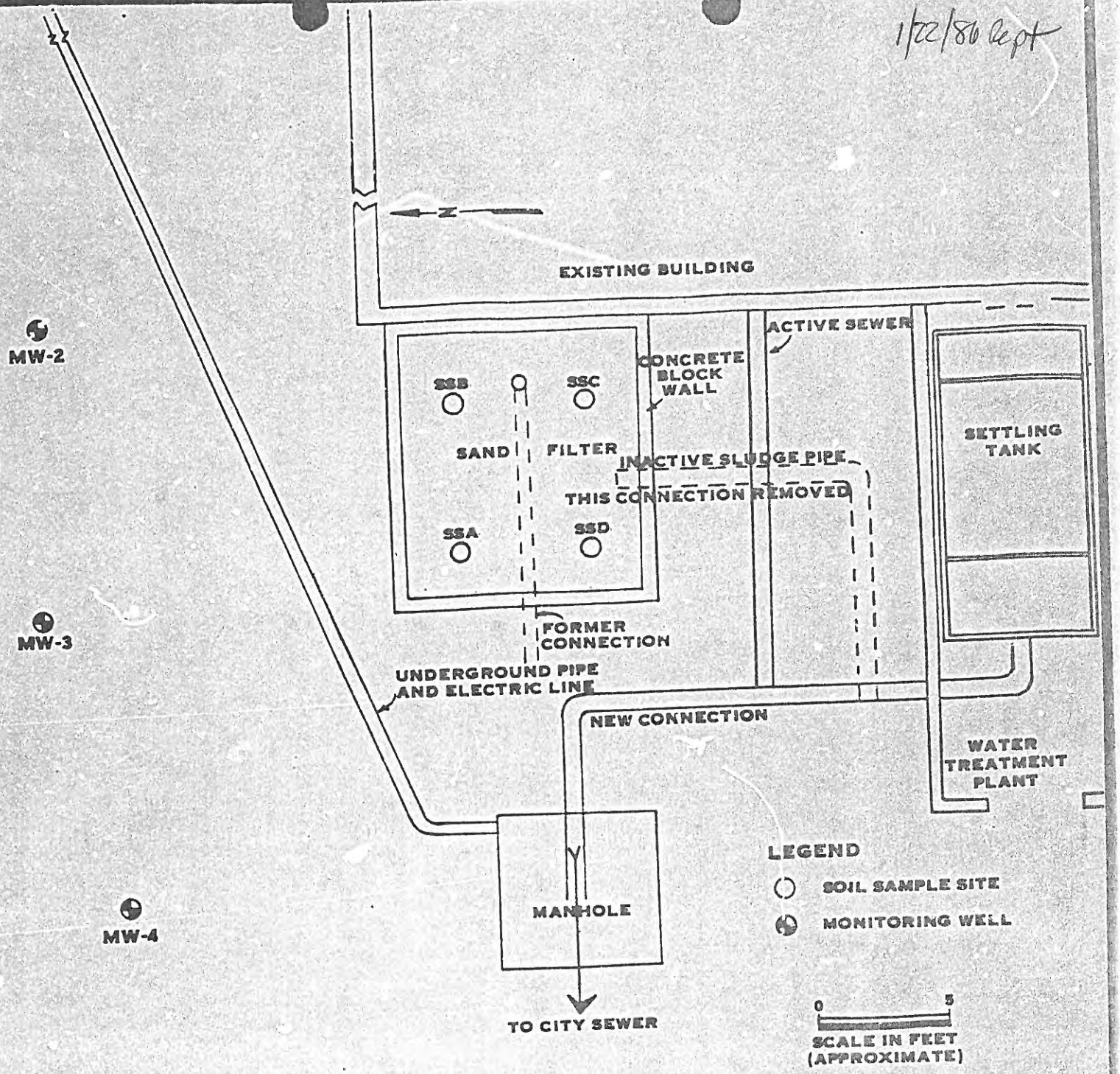
Sand Filter
Southern States, Inc.
Hampton, GA

Depth (in.)	Quadrant	CYANIDE	LEAD	CADMIUM	CHROMIUM	NICKEL
Acceptable Limits		18	1.5	0.3	1.5	23
42-48	A	<0.02	<0.05	<0.01	<0.04	<0.04
	B	<0.02	<0.05	<0.01	<0.04	<0.04
	C	<0.02	<0.05	<0.01	<0.04	<0.04
	D	<0.02	<0.05	<0.01	<0.04	<0.04
24-30	A	<0.2	<0.05	<0.01	<0.04	<0.04
	B	<0.2	<0.05	<0.01	<0.04	<0.04
	C	<0.2	<0.05	<0.01	<0.04	<0.04
	D	<0.2	<0.05	<0.01	<0.04	<0.04
12-15	A	<0.2	<0.05	<0.01	<0.04	<0.04
	B	<0.2	0.1	<0.01	0.04	0.4
	C	<0.2	<0.05	<0.01	<0.04	<0.04
	D	1.9	<0.05	<0.01	0.5	<0.04
6	A	1.4	<0.05	<0.01	<0.04	<0.04
	B	0.8	0.1	0.01	<0.04	<0.04
	C	0.5	<0.05	<0.01	<0.04	<0.04
	D	0.6	<0.05	0.01	<0.04	<0.04
1	A	5.8	0.2	0.1	<0.04	<0.04
	B	3.1	0.2	0.1	<0.04	<0.04
	C	1.7	0.2	0.2	<0.04	<0.04
	D	1.8	0.2	0.2	<0.04	<0.04

All values reported in mg/l.

03/13/2013

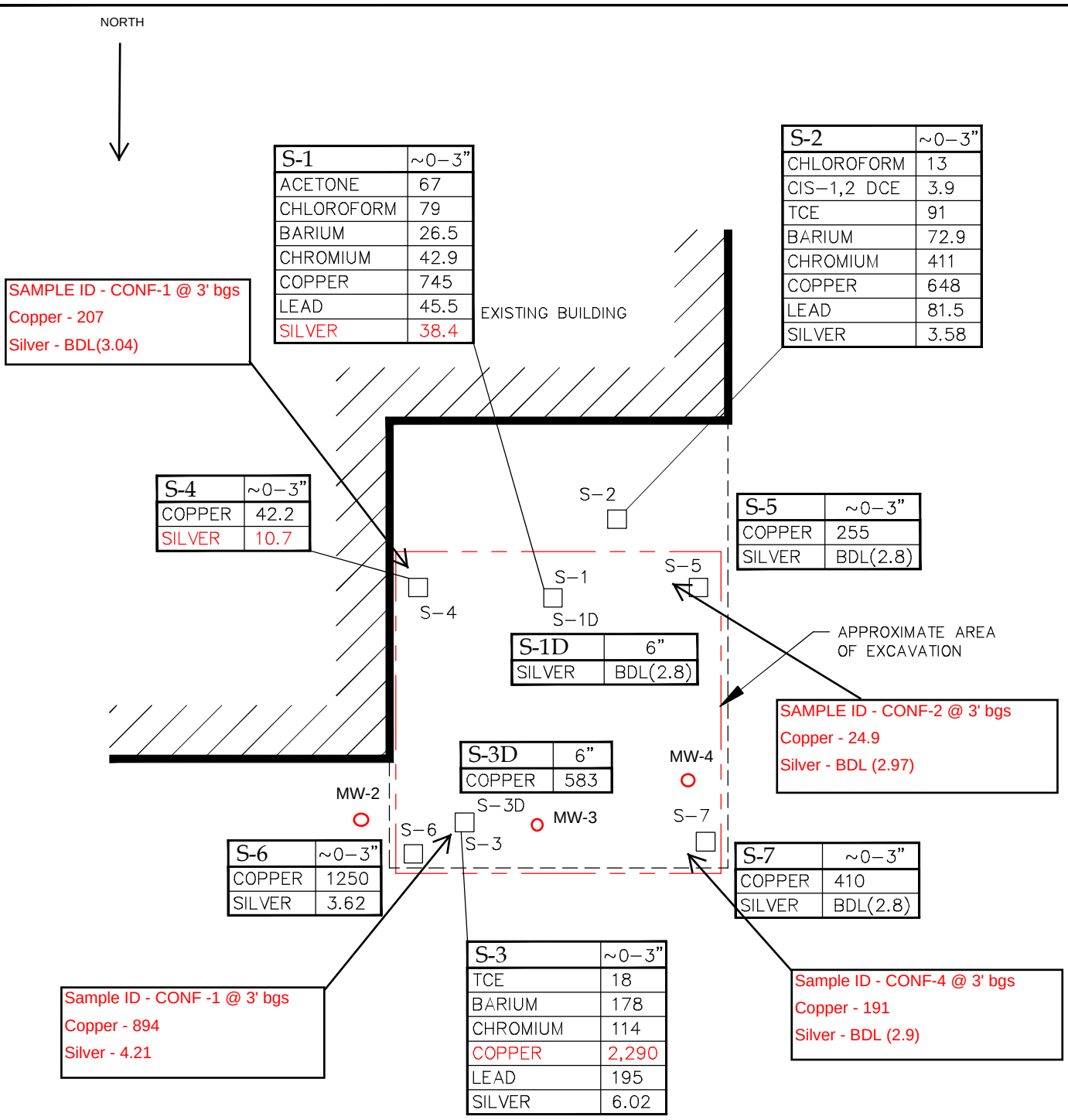
1/22/86 Rept



NOTE: THE LOCATION OF THE UPGRADIENT "BACKGROUND" WELL IS PROVIDED ON FIGURE 2

SOUTHERN STATES, INC. HAMPTON, GA	LAW ENVIRONMENTAL SERVICES MARIETTA, GEORGIA	SITE PLAN WITH DOWNGRADIENT MONITORING WELL LOCATIONS JOB NO. AE5340 FIGURE 3

D-4: CONFIRMATORY SOIL SAMPLE LOCATIONS/GROUNDWATER SAMPLE DATA (EMA, November 2013)



LEGEND

S–1 □ SAMPLING POINT LOCATION

NOTE:

1.) SAMPLE DATA IS IN MILLIGRAMS PER KILOGRAMS. FOR METALS

2.) SAMPLE DATA IS IN MICROGRAMS PER KILOGRAM FOR VOCS

0 5 10ft

Title
FORMER HAZARDOUS WASTE AREA

Client
SOUTHERN STATES
Hampton, Georga

EMA
Environmental Management Associates, LLC

Facility ID.

Figure
1

SOIL SAMPLE DETECTION SUMMARY RESULTS
FORMER <90 DAY HAZARDOUS WASTE STORAGE AREA
SOUTHERN STATES, LLC

SAMPLE ID	DEPTH	PARAMETER (1)	RESULT	NC
S-1	SURFACE (2)	ACETONE	67 ug/kg	2740
		CHLOROFORM	79 ug/kg	680
		BARIUM	26.5 mg/kg	500
		CHROMIUM	42.9 mg/kg	1200
		COPPER	745 mg/kg	1500
		LEAD	45.5 mg/kg	400
		SILVER	**38.4 mg/kg**	10
S-1D	6"	SILVER	BDL (2.8) mg/kg	
S-2	SURFACE	CHLOROFORM	13 ug/kg	680
		cis-1,2 DCE	3.9 ug/kg	530
		TCE	91 ug/kg	130
		BARIUM	72.9 mg/kg	500
		CHROMIUM	411 mg/kg	1200
		COPPER	648 mg/kg	1500
		LEAD	81.5 mg/kg	400
		SILVER	3.58 mg/kg	10
S-3	SURFACE	TCE	18 ug/kg	130
		BARIUM	178 mg/kg	500
		CHROMIUM	114 mg/kg	1200
		COPPER	**2290 mg/kg**	1500
		LEAD	195 mg/kg	400
		SILVER	6.02 mg/kg	10
S-3D	6"	COPPER	583 mg/kg	1500
S-4	SURFACE	COPPER	42.2 mg/kg	1500
		SILVER	**10.7 mg/kg**	10
S-5	SURFACE	COPPER	255 mg/kg	1500
		SILVER	BDL (2.8) mg/kg	10
S-6	SURFACE	COPPER	1250 mg/kg	1500
		SILVER	3.62 mg/kg	10
S-7	SURFACE	COPPER	410 mg/kg	1500
		SILVER	BDL (2.83) mg/kg	10
CONF-1	SURFACE	COPPER	410 mg/kg	1500
		SILVER	BDL (2.83) mg/kg	10
CONF-2	SURFACE	COPPER	410 mg/kg	1500
		SILVER	BDL (2.83) mg/kg	10
CONF-3	SURFACE	COPPER	410 mg/kg	1500
		SILVER	BDL (2.83) mg/kg	10
CONF-4	SURFACE	COPPER	410 mg/kg	1500
		SILVER	BDL (2.83) mg/kg	10

NOTES
(1) - Soil samples were analyzed for TCL VOCs, barium, cadmium, chromium, copper, lead, silver and total cyanide
(2) - Surface is 0 - 3" beneath the former concrete pad

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: Nov. 7, 2017

Ref. No.: _____ Personnel: JS

Monitoring Well Data:

Well No.: MW-2 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 13.58

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1450	65	13.58		5.62	17.41	0.702	16	1.54	16.8		
1458		17.65		5.10	17.50	0.680	8	1.78	14.2		
1502		13.68		5.51	17.55	0.612	-3	1.60	5.8		
1505		17.71		5.51	17.40	0.612	-5	1.64	5.1		
1510		13.74		5.51	17.48	0.612	-2	1.64	8.3		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: Nov. 7 2013

Ref. No.: _____ Personnel: JF

Monitoring Well Data:

Well No.: MW-3 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 13.44

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level*[3] *(ft)*	*pH*	*Temperature °C*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*	*No. of Well Screen Volumes Purged*[4]
1518	75	13.44		6.10	17.14	0.525	37	1.89	14.2		
1523	↓	13.68		6.05	16.41	0.522	28	1.34	11.1		
1530		13.65		6.01	16.52	0.522	27	1.20	8.1		
1535		13.60		6.01	16.61	0.522	26	1.18	7.8		
1540	↓	13.61		6.01	16.55	0.522	24	1.14	6.2		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: Nov. 7, 2013

Ref. No.: _____ Personnel: JS

Monitoring Well Data:

Well No.: MW-4 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 13.38

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1550	65	13.38		6.23	17.04	0.388	98	1.10	15.2		
1555		13.44		6.24	17.10	0.411	90	1.26	9.1		
1603		13.46		6.23	17.08	0.412	79	1.33	6.2		
1610		13.48		6.23	13.22	0.412	75	1.20	5.1		
1615		13.50		6.23	17.15	0.412	77	1.35	4.8		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 13, 2013

John Schwaller
Environmental Management Associates, LLC
5262 Belle Wood Ct.
Buford GA 30518

TEL: (770) 271-4628
FAX: (770) 271-8944

RE: Southern States

Dear John Schwaller: Order No: 1311577

Analytical Environmental Services, Inc. received 1 samples on 11/8/2013 10:30:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1311577

Date: ______ Page ____ of ____

COMPANY: EMA / JS
ADDRESS:
PHONE:
FAX:
SAMPLED BY: J. Schwarm
SIGNATURE:

Visit our website **www.aesatlanta.com** to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Metals	Diss. Metals	Turbidity	REMARKS	No # of Containers
						PRESERVATION (See codes)	N	S	I		
1	MW-2	11-7	1510	X		GW	X	X	/	Metals	
2										Copper	
3										Silver	
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature]	11-8-13 1030	1: [signature]	11/8/13 1030
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS: Proceed

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT (circled) FedEx UPS MAIL COURIER
GREYHOUND OTHER ______

PROJECT INFORMATION
PROJECT NAME: Southern States
PROJECT #:
SITE ADDRESS:
SEND REPORT TO: Schwarm
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: ______ PO#: ______

RECEIPT
Total # of Containers

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ☒ Same Day Rush (auth req.)
- ○ Other ______

STATE PROGRAM (if any): ______
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 13-Nov-13

Client:	Environmental Management Associates, LLC	**Client Sample ID:**	MW-2
Project Name:	Southern States	**Collection Date:**	11/7/2013 3:10:00 PM
Lab ID:	1311577-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Turbidity E180.1								
Turbidity	BRL	1.00		NTU	R255449	1	11/08/2013 16:00	KB
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Copper	BRL	0.0100		mg/L	183366	1	11/08/2013 15:56	JL
Silver	BRL	0.0100		mg/L	183366	1	11/08/2013 15:56	JL
METALS, TOTAL SW6010C					**(SW3010A)**			
Copper	BRL	0.0100		mg/L	183402	1	11/08/2013 16:52	JL
Silver	BRL	0.0100		mg/L	183402	1	11/08/2013 16:52	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EMA/JS Work Order Number 1311577

Checklist completed by Sam B 11/8/13
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.2° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Analytical Environmental Services, Inc

Date: 13-Nov-13

Client: Environmental Management Associates, LLC
Project: Southern States
Lab Order: 1311577

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1311577-001A	MW-2	11/7/2013 3:10:00PM	Groundwater	Turbidity			11/08/2013
1311577-001A	MW-2	11/7/2013 3:10:00PM	Groundwater	DISSOLVED METALS BY ICP		11/08/2013	11/08/2013
1311577-001B	MW-2	11/7/2013 3:10:00PM	Groundwater	TOTAL METALS BY ICP		11/08/2013	11/08/2013

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311577

ANALYTICAL QC SUMMARY REPORT

BatchID: 183366

Sample ID: **MB-183366** Client ID:
SampleType: **MBLK** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364161**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	BRL	0.0100									
Silver	BRL	0.0100									

Sample ID: **LCS-183366** Client ID:
SampleType: **LCS** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364159**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9503	0.0100	1.000		95.0	80	120				
Silver	0.09691	0.0100	0.1000		96.9	80	120				

Sample ID: **1311260-002CMS** Client ID:
SampleType: **MS** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364163**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9715	0.0100	1.000		97.2	75	125				
Silver	0.09797	0.0100	0.1000		98.0	75	125				

Sample ID: **1311260-002CMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364165**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9672	0.0100	1.000		96.7	75	125	0.9715	0.443	20	
Silver	0.09820	0.0100	0.1000		98.2	75	125	0.09797	0.234	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311577

ANALYTICAL QC SUMMARY REPORT

BatchID: 183402

Sample ID: **MB-183402** Client ID:
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364339**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	BRL	0.0100									
Silver	BRL	0.0100									

Sample ID: **LCS-183402** Client ID:
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364337**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.083	0.0100	1.000		108	80	120				
Silver	0.1069	0.0100	0.1000		107	80	120				

Sample ID: **1311573-001BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364343**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.091	0.0100	1.000	0.007634	108	75	125				
Silver	0.1061	0.0100	0.1000		106	75	125				

Sample ID: **1311573-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364345**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.075	0.0100	1.000	0.007634	107	75	125	1.091	1.53	20	
Silver	0.1056	0.0100	0.1000		106	75	125	0.1061	0.397	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311577

ANALYTICAL QC SUMMARY REPORT

BatchID: R255449

Sample ID: **MB-R255449**	Client ID:				Units: **NTU**	Prep Date:		Run No: **255449**	
SampleType: **MBLK**	TestCode: **Turbidity E180.1**				BatchID: **R255449**	Analysis Date: **11/08/2013**		Seq No: **5364387**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Turbidity	BRL	1.00									

Sample ID: **LCS-R255449**	Client ID:				Units: **NTU**	Prep Date:		Run No: **255449**	
SampleType: **LCS**	TestCode: **Turbidity E180.1**				BatchID: **R255449**	Analysis Date: **11/08/2013**		Seq No: **5364388**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Turbidity	4.810	1.00	5.000		96.2	90	110				

Sample ID: **1311573-001ADUP**	Client ID:				Units: **NTU**	Prep Date:		Run No: **255449**	
SampleType: **DUP**	TestCode: **Turbidity E180.1**				BatchID: **R255449**	Analysis Date: **11/08/2013**		Seq No: **5364394**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Turbidity	BRL	1.00						0.9000	0	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 13, 2013

John Schwaller
Environmental Management Associates, LLC
5262 Belle Wood Ct.
Buford GA 30518

TEL: (770) 271-4628
FAX: (770) 271-8944

RE: Southern States

Dear John Schwaller: Order No: 1311576

Analytical Environmental Services, Inc. received 1 samples on 11/8/2013 10:30:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3785 Presidential Parkway, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1311576

Date: _____ Page _____ of _____

COMPANY: EMR/JS

ADDRESS:

PHONE:

FAX:

SAMPLED BY: J. SCHWARM

SIGNATURE:

ANALYSIS REQUESTED: Metals, Diss. Metals, Turbidity

PRESERVATION (See codes): T, H, I

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	No # of Containers	REMARKS
1	MW-3	11-7	1540	X		GW		Metals Copper Silver
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	11-8-13 1030	1:	11/8/13 10:30
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS: RUSH

SHIPMENT METHOD

OUT / / VIA:

IN VIA:

CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER _____

PROJECT INFORMATION

PROJECT NAME: Southland Site 25

PROJECT #:

SITE ADDRESS:

SEND REPORT TO: Schwarm

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ⊗ Same Day Rush (**auth req.**)
- ○ Other _____

STATE PROGRAM (if any): _____

E-mail? Y / N, Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 13-Nov-13

Client:	Environmental Management Associates, LLC	**Client Sample ID:**	MW-3
Project Name:	Southern States	**Collection Date:**	11/7/2013 3:40:00 PM
Lab ID:	1311576-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Turbidity E180.1								
Turbidity	1.04	1.00		NTU	R255449	1	11/08/2013 16:00	KB
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Copper	BRL	0.0100		mg/L	183366	1	11/08/2013 15:49	JL
Silver	BRL	0.0100		mg/L	183366	1	11/08/2013 15:49	JL
METALS, TOTAL SW6010C					**(SW3010A)**			
Copper	BRL	0.0100		mg/L	183402	1	11/08/2013 16:48	JL
Silver	BRL	0.0100		mg/L	183402	1	11/08/2013 16:48	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EMAIS Work Order Number 1311576

Checklist completed by Jam B 11/8/13
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.2 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Analytical Environmental Services, Inc

Date: 13-Nov-13

Client: Environmental Management Associates, LLC
Project: Southern States
Lab Order: 1311576

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1311576-001A	MW-3	11/7/2013 3:40:00PM	Groundwater	Turbidity			11/08/2013
1311576-001A	MW-3	11/7/2013 3:40:00PM	Groundwater	DISSOLVED METALS BY ICP		11/08/2013	11/08/2013
1311576-001B	MW-3	11/7/2013 3:40:00PM	Groundwater	TOTAL METALS BY ICP		11/08/2013	11/08/2013

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311576

ANALYTICAL QC SUMMARY REPORT

BatchID: 183366

Sample ID: **MB-183366**	Client ID:			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255439**
SampleType: **MBLK**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **183366**	Analysis Date: **11/08/2013**	Seq No: **5364161**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	BRL	0.0100									
Silver	BRL	0.0100									

Sample ID: **LCS-183366**	Client ID:			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255439**
SampleType: **LCS**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **183366**	Analysis Date: **11/08/2013**	Seq No: **5364159**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9503	0.0100	1.000		95.0	80	120				
Silver	0.09691	0.0100	0.1000		96.9	80	120				

Sample ID: **1311260-002CMS**	Client ID:			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255439**
SampleType: **MS**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **183366**	Analysis Date: **11/08/2013**	Seq No: **5364163**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9715	0.0100	1.000		97.2	75	125				
Silver	0.09797	0.0100	0.1000		98.0	75	125				

Sample ID: **1311260-002CMSD**	Client ID:			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255439**
SampleType: **MSD**	TestCode: **METALS, DISSOLVED**	**SW6010C**		BatchID: **183366**	Analysis Date: **11/08/2013**	Seq No: **5364165**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9672	0.0100	1.000		96.7	75	125	0.9715	0.443	20	
Silver	0.09820	0.0100	0.1000		98.2	75	125	0.09797	0.234	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below *reporting limit*	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	*RPD outside limits due to matrix*
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311576

ANALYTICAL QC SUMMARY REPORT

BatchID: 183402

Sample ID: **MB-183402** Client ID:
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364339**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	BRL	0.0100									
Silver	BRL	0.0100									

Sample ID: **LCS-183402** Client ID:
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364337**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.083	0.0100	1.000		108	80	120				
Silver	0.1069	0.0100	0.1000		107	80	120				

Sample ID: **1311573-001BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364343**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.091	0.0100	1.000	0.007634	108	75	125				
Silver	0.1061	0.0100	0.1000		106	75	125				

Sample ID: **1311573-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255445**
BatchID: **183402** Analysis Date: **11/08/2013** Seq No: **5364345**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.075	0.0100	1.000	0.007634	107	75	125	1.091	1.53	20	
Silver	0.1056	0.0100	0.1000		106	75	125	0.1061	0.397	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311576

ANALYTICAL QC SUMMARY REPORT

BatchID: R255449

Sample ID: **MB-R255449**	Client ID:				Units: **NTU**	Prep Date:		Run No: **255449**	
SampleType: **MBLK**	TestCode: **Turbidity E180.1**				BatchID: **R255449**	Analysis Date: **11/08/2013**		Seq No: **5364387**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Turbidity	BRL	1.00									

Sample ID: **LCS-R255449**	Client ID:				Units: **NTU**	Prep Date:		Run No: **255449**	
SampleType: **LCS**	TestCode: **Turbidity E180.1**				BatchID: **R255449**	Analysis Date: **11/08/2013**		Seq No: **5364388**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Turbidity	4.810	1.00	5.000		96.2	90	110				

Sample ID: **1311573-001ADUP**	Client ID:				Units: **NTU**	Prep Date:		Run No: **255449**	
SampleType: **DUP**	TestCode: **Turbidity E180.1**				BatchID: **R255449**	Analysis Date: **11/08/2013**		Seq No: **5364394**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Turbidity	BRL	1.00						0.9000	0	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 13, 2013

John Schwaller
Environmental Management Associates, LLC
5262 Belle Wood Ct.
Buford GA 30518

TEL: (770) 271-4628
FAX: (770) 271-8944

RE: Southern States

Dear John Schwaller: Order No: 1311573

Analytical Environmental Services, Inc. received 1 samples on 11/8/2013 10:30:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

AES
3785 Presidential Parkway, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1311573

Date: ______ Page ____ of ____

COMPANY: EMA/JS
ADDRESS:
PHONE:
FAX:
SAMPLED BY: J. Schwallie
SIGNATURE: [signature]

Visit our website **www.aesatlanta.com** to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	METALS	DISS. METALS	TURBIDITY	REMARKS	No # of Containers
						PRESERVATION (See codes)	N	I	I		
1	MW-4	11-7-17	1615	x		GW	x	✓	✓	Metals	
2										Copper	
3										Silver	
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature]	11-8-17 1630	1: [signature]	11/8/13 10:30
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: Southern States
PROJECT #:
SITE ADDRESS:
SEND REPORT TO: Schwallie
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ⊗ Same Day Rush (auth req.)
- ○ Other ______

STATE PROGRAM (if any): ______
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II (III) IV

SPECIAL INSTRUCTIONS/COMMENTS: [illegible]

SHIPMENT METHOD
OUT / / VIA:
IN VIA:
(CLIENT) FedEx UPS MAIL COURIER
GREYHOUND OTHER ______

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 13-Nov-13

Client:	Environmental Management Associates, LLC	**Client Sample ID:**	MW-4
Project Name:	Southern States	**Collection Date:**	11/7/2013 4:15:00 PM
Lab ID:	1311573-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Turbidity E180.1								
Turbidity	BRL	1.00		NTU	R255449	1	11/08/2013 16:00	KB
METALS, DISSOLVED SW6010C					**(SW3005A)**			
Copper	BRL	0.0100		mg/L	183366	1	11/08/2013 15:53	JL
Silver	BRL	0.0100		mg/L	183366	1	11/08/2013 15:53	JL
METALS, TOTAL SW6010C					**(SW3010A)**			
Copper	BRL	0.0100		mg/L	183402	1	11/08/2013 16:23	JL
Silver	BRL	0.0100		mg/L	183402	1	11/08/2013 16:23	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EMAISS Work Order Number 1311573

Checklist completed by [signature] 11/8/13
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (4°C±2)*	Yes ✓	No __	

Cooler #1 3.2 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes __ No __
Water - pH acceptable upon receipt?	Yes ✓	No __ Not Applicable __

Adjusted? _____ Checked by SB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Analytical Environmental Services, Inc

Date: 13-Nov-13

Client: Environmental Management Associates, LLC
Project: Southern States
Lab Order: 1311573

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1311573-001A	MW-4	11/7/2013 4:15:00PM	Groundwater	Turbidity			11/08/2013
1311573-001A	MW-4	11/7/2013 4:15:00PM	Groundwater	DISSOLVED METALS BY ICP		11/08/2013	11/08/2013
1311573-001B	MW-4	11/7/2013 4:15:00PM	Groundwater	TOTAL METALS BY ICP		11/08/2013	11/08/2013

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311573

ANALYTICAL QC SUMMARY REPORT

BatchID: 183366

Sample ID: **MB-183366** Client ID:
SampleType: **MBLK** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364161**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	BRL	0.0100									
Silver	BRL	0.0100									

Sample ID: **LCS-183366** Client ID:
SampleType: **LCS** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364159**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9503	0.0100	1.000		95.0	80	120				
Silver	0.09691	0.0100	0.1000		96.9	80	120				

Sample ID: **1311260-002CMS** Client ID:
SampleType: **MS** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364163**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9715	0.0100	1.000		97.2	75	125				
Silver	0.09797	0.0100	0.1000		98.0	75	125				

Sample ID: **1311260-002CMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, DISSOLVED** **SW6010C**
Units: **mg/L** Prep Date: **11/08/2013** Run No: **255439**
BatchID: **183366** Analysis Date: **11/08/2013** Seq No: **5364165**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	0.9672	0.0100	1.000		96.7	75	125	0.9715	0.443	20	
Silver	0.09820	0.0100	0.1000		98.2	75	125	0.09797	0.234	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1311573

ANALYTICAL QC SUMMARY REPORT

BatchID: 183402

Sample ID: **MB-183402**	Client ID:			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255445**
SampleType: **MBLK**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **183402**	Analysis Date: **11/08/2013**	Seq No: **5364339**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	BRL	0.0100									
Silver	BRL	0.0100									

Sample ID: **LCS-183402**	Client ID:			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255445**
SampleType: **LCS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **183402**	Analysis Date: **11/08/2013**	Seq No: **5364337**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.083	0.0100	1.000		108	80	120				
Silver	0.1069	0.0100	0.1000		107	80	120				

Sample ID: **1311573-001BMS**	Client ID: **MW-4**			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255445**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **183402**	Analysis Date: **11/08/2013**	Seq No: **5364343**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.091	0.0100	1.000	0.007634	108	75	125				
Silver	0.1061	0.0100	0.1000		106	75	125				

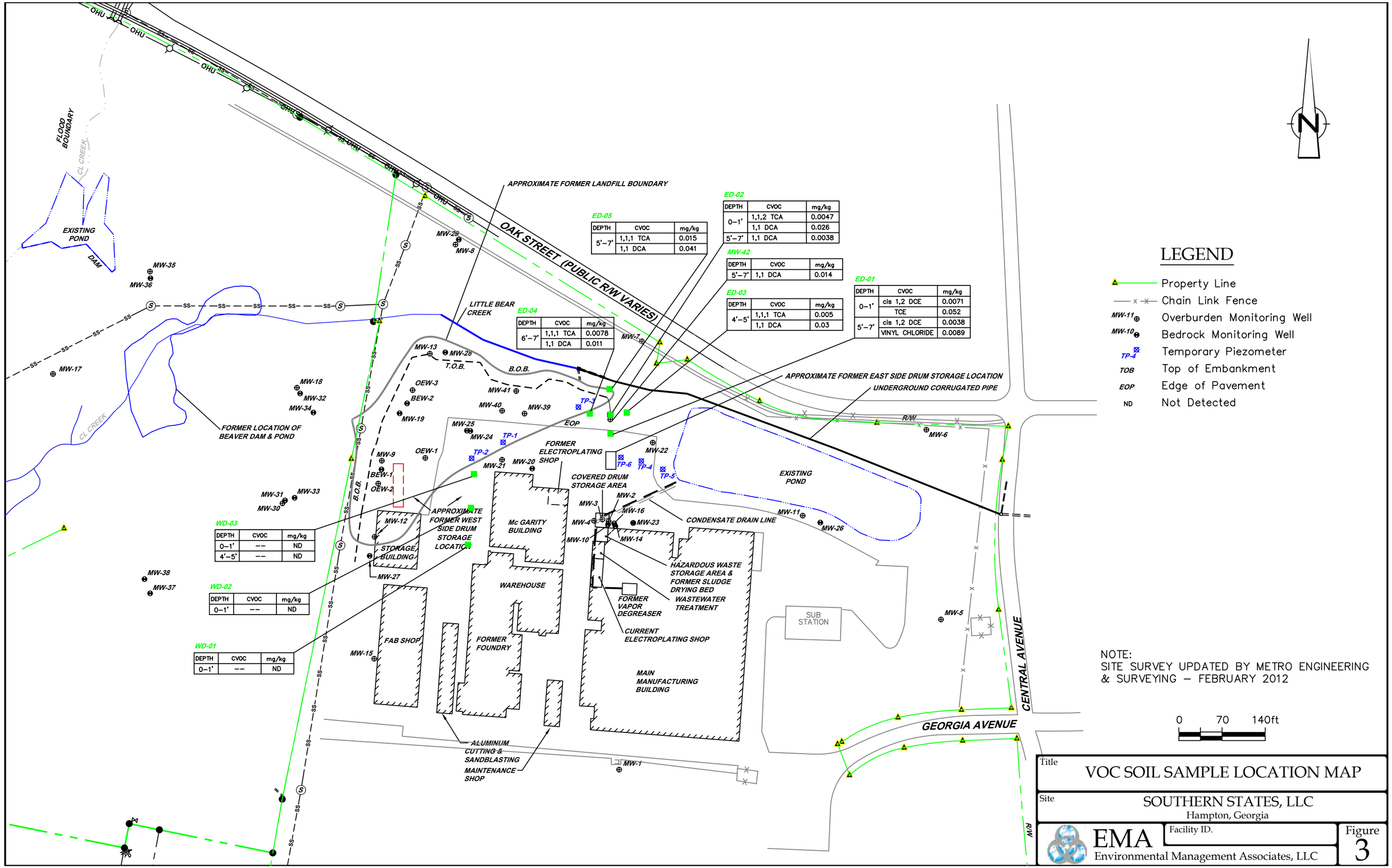
Sample ID: **1311573-001BMSD**	Client ID: **MW-4**			Units: **mg/L**	Prep Date: **11/08/2013**	Run No: **255445**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **183402**	Analysis Date: **11/08/2013**	Seq No: **5364345**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	1.075	0.0100	1.000	0.007634	107	75	125	1.091	1.53	20	
Silver	0.1056	0.0100	0.1000		106	75	125	0.1061	0.397	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

D-5: FIGURE 3 (EMA, Supplemental Investigation Report, July 1, 2014)



ED-05

DEPTH	CVOC	mg/kg
5'–7'	1,1,1 TCA	0.015
	1,1 DCA	0.041

ED-02

DEPTH	CVOC	mg/kg
0–1'	1,1,2 TCA	0.0047
	1,1 DCA	0.026
5'–7'	1,1 DCA	0.0038

MW-42

DEPTH	CVOC	mg/kg
5'–7'	1,1 DCA	0.014

ED-03

DEPTH	CVOC	mg/kg
4'–5'	1,1,1 TCA	0.005
	1,1 DCA	0.03

ED-01

DEPTH	CVOC	mg/kg
0–1'	cis 1,2 DCE	0.0071
	TCE	0.052
5'–7'	cis 1,2 DCE	0.0038
	VINYL CHLORIDE	0.0089

ED-04

DEPTH	CVOC	mg/kg
6'–7'	1,1,1 TCA	0.0078
	1,1 DCA	0.011

WD-03

DEPTH	CVOC	mg/kg
0–1'	--	ND
4'–5'	--	ND

WD-02

DEPTH	CVOC	mg/kg
0–1'	--	ND

WD-01

DEPTH	CVOC	mg/kg
0–1'	--	ND

LEGEND

- Property Line
- Chain Link Fence
- MW-11 Overburden Monitoring Well
- MW-10 Bedrock Monitoring Well
- TP-4 Temporary Piezometer
- TOB Top of Embankment
- EOP Edge of Pavement
- ND Not Detected

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURVEYING – FEBRUARY 2012

0 70 140ft

Title: VOC SOIL SAMPLE LOCATION MAP

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA Environmental Management Associates, LLC

Facility ID.

Figure 3

APPENDIX E
MILESTONE SCHEDULE

MILESTONE SCHEDULE
SOUTHERN STATES, LLC
30 GEORGIA AVENUE
HAMPTON, GEORGIA

First Year

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7				Month 8				Month 9				Month 10				Month 11				Month 12			
Corrective Action Activity	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***
Ecological Risk Assessment																																																
ISCO injection																																																
Quarterly GW Sampling/Report																													√																			
File GW Restriction Covenant																																															
Semiannual Progress Report																														√																		

Second Year

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7				Month 8				Month 9				Month 10				Month 11				Month 12			
Corrective Action Activity	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***
Quarterly GW Sampling/Report					√												√												√												√							
Isolation of Little Bear Creek																																															
Limited Soil Removal																																															
Landfill Cap																																															
Semiannual Progress Reports		√																								√																	√			
Update CSM																		√																														
VRP Compliance Status Report																																															X

APPENDIX F

RESPONSE TO EPD COMMENTS JANUARY 23, 2013

FOCUSED SOURCE INVESTIGATION REPORT

EMA JUNE 25, 2012

RESPONSE TO COMMENTS
FOCUSED SOURCE INVESTIGATION REPORT
EMA, LLC
JUNE 25, 2012

Comment No. 1: *Section 1.1, Facility Operations – The first paragraph, sixth sentence states that all equipment manufactured or serviced at the facility utilized pure mineral oil (based upon information provided in a specification dated 1963). The information does not account for the period of time between 1940 and 1962, or after 1963. The information provided does not conclusively demonstrate that PCB-containing oil was not historically used at the site. Please revise.*

Response: No known use of PCB-containing oil other than historic transformers for on-site power distribution has been identified. Revised in Section 3.3.2 of the VRP.

Comment No. 2 : *Section 2,1.2, Bedrock Groundwater Quality – The first paragraph, third sentence states that the vertical extent of bedrock groundwater contamination has been defined in the center of the property. The bedrock groundwater plume is not present at this location; hence, this statement is not applicable. Furthermore, the plume of contamination has not been defined vertically within the bedrock at well locations MW-19, MW-28, MW-31, MW-32, MW-33 and MW-34. Revise the statement.*

Response: Revised. See section 3.4.2 of the VRP.

Comment No. 3 : *Section 2.2, Site Soils, Section 2.4 (Sediment) & Section 5.4 (Sediment) – Contaminants identified in both soil and sediment must be delineated to site background concentrations. Please revise all appropriate text, tables and figures as needed.*

Response: Not applicable. Soils have been delineated to Type 1 RRS.

Comment No. 4 : *Section 3.0, Potential Source Areas –*

a) Trichloroethene (TOE) is present in saturated soil and groundwater at the facility. Please provide detailed information regarding historic usage of TCE at the facility in this section (dates used, locations where it was used, quantity, waste generation & disposal, etc.).

Response: As discussed in the Focused Source Investigation Report (EMA June 2012), TCE was used from the 1940's to 1972 when it was replaced with 1,1,1-TCA. The specific locations used are unknown with the exception of the main manufacturing building where the former vapor degreaser was located. Amounts used and specific waste disposal practices of that period are unknown.

b) Poly Chlorinated Biphenyls (PCBs) have been identified in on-site soil and sediment. Please provide additional discussion that may help to clarify the potential historical source(s) of PCBs.

Response: No known use of PCB-containing oil other than historic transformers for on-site power distribution has been identified. Revised in Section 3.3.2.

c) Include the electroplating area as a potential source area in this section. Include the dates of service, raw process chemicals utilized, waste types and quantities generated, and waste disposal information, with an emphasis on details prior to 1980. Clarify whether any pre-1980 wastes from the electroplating operations were

disposed in the on-site landfill. If not, clarify where the electroplating wastes were disposed. Based upon EPD's current understanding of the electroplating operations, hazardous waste generated, and the lack of investigation activities documented in this area, please provide a soil sampling scheme for the electroplating building. Sample locations should be biased toward suspect current and historical process areas. Laboratory analysis should include RCRA metals, cyanide, and VOCs, along with other process metals historically used in this area.

Response: The former and current electroplating (EP) areas should not be considered potential source areas of chlorinated VOCs as no solvents are directly used in the electroplating process. Raw materials of the electroplating process include copper, tin, hydrochloric acid, nitric acid, sulfuric acid, silver, potassium cyanide, and potassium stannate. The locations of the former and current processes are illustrated on Figure 2. It is not known when the former EP area was first utilized but operations continued up to 1978. The former EP operation was a small hand application process with no large tanks and utilized an acid cleaning process only. A groundwater sample was collected on April 26, 2013 from monitoring well MW-21 located immediately downgradient of the former EP area. Only copper and zinc were reported at concentrations of 0.0261 mg/L and 0.0441 mg/L, respectively. The concentrations are well below the NC. The groundwater purge form and laboratory data are presented in Attachment 1.

It is unknown as to the disposition of waste from the former EP operation. The current operation has been operational since 1978 to present day. No reportable spills have occurred. Waste generated from the current EP operation has been disposed off site.

EPD conducted a site inspection on August 28 2013, in which the floor and wall adjacent to the current EP process acid bath tanks were noted as being stained. EPD requested a hazardous waste determination be made and appropriate cleanup be performed. The area was cleaned and confirmatory sampling reported to EPD indicated the concrete was non-hazardous for metals.

d) Information regarding the foundry operations, including dates and wastes generated should be provided. Also include waste disposal information (both on and off-site, as applicable).

Response: The former foundry operated in the location illustrated on Figure 2 of the VRP from approximately the 1940's to 1993 and utilized aluminum, brass, iron, and sand. Sand and associated iron slag was reportedly disposed in the former landfill during its' operation as confirmed during soil sample collection activities in this area.

e) Item #2, Former Vapor Degreaser: The text states that the source of 1,1,1-Trichloroethane (1,1,1- TCA) at the facility is the former Vapor Degreaser Unit. Historically, a single soil sample at a depth of 5 ft. was collected adjacent to the unit location. No additional information is provided regarding dates of operation, operational characteristics (such as whether or not it had secondary containment or if the floor was cracked or sealed), the closure or conversion of the tank and surrounding floor area, Therefore, Southern States should propose additional soil borings in this location for analysis of VOCs via EPA methods 8260B and 5035.

Response: The text of the report correctly identifies the former vapor degreaser as the only known process utilizing 1,1,1-TCA. The unit utilized 1,1,1-TCA at the location illustrated on Figure 2 from 1972 to 1994. A pipe carried the condensate from the unit, penetrated the concrete floor, ran underground, and discharged to the Fire Protection Pond as illustrated on Figure 2. Soil sample B-5-5 was collected by GeoSciences in 1993 reportedly at the pipe penetration of the concrete floor. The soil sample was free of detectable VOCs. If a surface spill from the unit occurred, this is the most likely location of impact. No further action is warranted.

f) Item #3, Former Sludge Drying Bed: Include information regarding the area and depth of the bed(s), how the bed(s) were closed, the quantity of waste material and/or contaminated soil that was removed, where the waste and/or soil was disposed, and any other pertinent information. Include a discussion of soil confirmation sample results for metals and cyanide.

Response: See section 3.3.1 of the VRP.

g) Item #5, Drum Storage Areas: Provide information regarding the floor drain located in the East Drum Storage Area. Indicate the point of discharge for the floor drain, and whether the floor drain still exists or has been closed.

Response: The floor drain was located in the center of the former enclosed east side drum storage shed. The drainage pipe ran north from the shed to the approximate location of soil boring ED-05 presented on Figure 3 of the Supplemental Investigation Report, EMA July 2014. The floor drain has been paved over.

h) Include detailed information regarding the current hazardous waste storage area(s). Include dates of operation, current and historical information regarding products and wastes stored, floor drain discharges, concrete floor conditions, etc.

Response: The hazardous waste storage area referenced above is now referred to as the former hazardous waste storage area illustrated on Figure 2. The area was utilized from approximately 1983 to November 2013. The area was covered with a concrete base and berm. One shallow concrete sump existed as it also collected sludge supernatant which was pumped to the wastewater treatment system. Spent TCA would have been stored here from 19XX to 1994 when it was discontinued. Other wastes historically stored here include hydrochloric/sulfuric acid (D001), electroplating sludge (F006,D006, D008), spent silver potassium cyanide (F007, D011), spent media blast (D008), used cutting oil (D008), and spent tin dip quench (D005, D008). The area was decommissioned in November 2013 as discussed in section 3.3.1 of the VRP.

i) Page 15, discussion of aerial photograph review:

- *Please add observations for aerial photographs dated 1986, 1993, 2005 & 2006.*

- *Please explain the possible drainage ditches observed in the 1964 aerial photograph.*

Response: No significant changes were observed from 1986-2006. Possible drainage ditches running north south were observed. No other significance can be discerned.

Comment No. 5 : Section 4.2.3, Former Landfill – Please provide a figure depicting data obtained for the MIP investigation.

Response: A table summarizing the highest CVOC response detected at each location and associated depth is provided and Figure 12 from the report is reproduced here as Attachment 2.

Comment No. 6 : Section 5.1, Supplemental Investigation – Page 26, Former Inactive Landfill metals results discussion: submit groundwater purging and sampling forms for all wells sampled as part of the Focused Source Investigation.

Response: See Attachment 3.

Comment No. 7 : Section 5.2, Sub-Surface Soil – Submit boring logs that include Unified Soil Classification System (USCS) soil classification and Photo Ionization Detector (PID) readings for soil boring locations BH-1 and BH-2. The analytical data for soil and groundwater should be tabulated and presented on a figure.

Response: See Attachment 4 for the stratigraphic logs and revised Figure 12.

Comment No. 8 : *Section 5.4, Sediment – Regarding delineation of PCBs in sediment at Little Bear Creek/Beaver Pond, further vertical delineation is required at sediment sample locations SED-2, SED-3, SED-10, SED-13, POND-S and POND-M.*

Response: Not applicable. Sediment samples have been delineated to Type 1 RRS. An ecological risk assessment is proposed in section 4.5 of the VRP.

Comment No. 9 : *Section 6.0, Source Investigation Findings & Conclusions –*

a) Page 32, 4th paragraph states, "No significant levels of PCBs were detected in the soil within the former landfill". A review of the analytical data indicates that all five soil boring locations within the landfill have exceedances of the residential Risk Screening Levels (RSLs) for PCBs presented on the United States Environmental Protection Agency (USEPA) Region 3 Regional Screening Table: http://www.epa.cov/req3hwmd/risk/humankb-concentration table/index, htm. Revise this statement.

Response: Soils have been delineated to Type 1 RRS.

b) Page 32, last paragraph states, ".,.all previously suspected sources discussed in this report have been eliminated as potential source areas for contamination". As noted above, exceedances of the RSL.s for PCBs

were noted in all five soil borings performed within the landfill at depths ranging from 1 to 3 feet, indicating the fill material within the landfill is the source of PCBs. Revise this statement.

Response: Not applicable. Delineated to Type 1 RRS.

Comment No. 10: Table 6, Summary of Detected PCBs in Soil and Table 8, Summary of Detected Analytes in Sediment – Concentrations of PCBs in both soil and sediment should be compared to the residential RSLs.

Response: Soils have been delineated to Type 1 RRS. Sediment is discussed in section 3.6 of the VRP

Comment No. 11: Figure 10, Historical Soil Sample Locations – The following historical soil sample locations should be added to this figure: SB-4 and B-23 through B-27 (adjacent to the former sludge drying bed area); 6-28 and B-29 (located within the former landfill); B-30 (adjacent to the Fire Pond); B-20 (adjacent to well MW-20); and 6-22 (adjacent to well MW-22).

Response: Historic soil sample location SB-4 adjacent to the former sludge impoundment (drying bed) is correctly identified as B-4 on Figure 10. Soil sample locations B-23, B-24, B-25, and B-26 adjacent to the former sludge impoundment (drying bed) are correctly identified on Figure 10. Soil sample location B-27 corresponds to monitoring well MW-23. Soil sample location B-28 corresponds to monitoring well location MW-24. No soil sample location B-29 (located within the former landfill) has been located in any historic report located (GeoSciences or CRA). No soil sample location B-30 (located adjacent to the Fire Pond) has been located in any historic report located (GeoSciences or CRA). Soil sample location B-20 corresponds to monitoring well location MW-20. Soil sample location B-22 corresponds to monitoring well MW-22.

Comment No. 12 : Figure 14, Sediment Sample Locations/Results – This figure does not depict the location of the creek from SED-2 to the Beaver Pond, and the Beaver Pond discharge to the site property boundary. Please revise this figure to include the information,

Response: Little Bear Creek from SED-2 to the former Beaver Pond is illustrated on Figure 2. As the property encompasses a large tract of land west of the former Beaver Pond this can not easily be shown on a standard figure. The overall property boundaries are illustrated on the property plan included as Appendix B of the VRP.

Comment No. 13 : Appendix G, Laboratory Analytical Reports – The following data provided in laboratory analytical packages contained in this appendix should be tabulated and presented in the body of the Report:

- *Data for MIP soil and groundwater samples.*
- *Metals and cyanide data for groundwater samples MW-3, MW-9, MW-13 and MW-39.*

- *PCB in groundwater for samples obtained February 2012.*

Response: Separate tables are provided in Attachment 5.

Comment No. 14 : General Comment Regarding PCBs in Soil & Sediment – Exceedances of the Residential RSLs were observed for PCBs in both soil and sediment. Cleanup of PCBs is administered through USEPA Region IV offices under 40 CFR 761.61, PCB Remediation Waste. Therefore, joint USEPA/EPD coordination is necessary to address PCBs in soil and sediment,

Response: Soils have been delineated to Type 1 RRS. Sediment is discussed in section 3.6 of the VRP.

Comment No. 15: General Comment Regarding Soil Boring Logs and Monitoring Well Construction Forms - A comprehensive collection ofall soil boring logs and groundwater monitoring well schematics should be provided in the revised Report..

Response: All historic boring and monitoring well logs have been previously provided in the CRA, Site Assessment Report and revised Corrective Action Plan. All EMA data has been provided in each of the subsequent EMA reports.

ATTACHMENT 1

MW-21 PURGE RECORD
&
LABORATORY DATA

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Southern States LLC

Ref. No.: _____

Date: 4/25/13

Personnel: JJ

Monitoring Well Data:

Well No.: MW-21

Measurement Point: _____

Constructed Well Depth (ft): 23.80

Measured Well Depth (ft): _____

Depth of Sediment (ft): _____

Screen Length (ft): _____

Depth to Pump Intake (ft)[1]: _____

Well Diameter, D (in): 2"

Well Screen Volume, V_s (mL): _____

Initial Depth to Water (ft): 9.42

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level [2] (ft)	pH	Temperature °C	Conductivity [3] (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)
			Precision Required:	±0.1 Units	±3%	±0.005 or 0.01	±10 mV	±10%	±10%
1505	75	9.42		5.74	19.48	0.210	113	1.38	18.4
1508		9.48		5.73	19.53	0.214	108	1.25	12.1
1515		9.63		5.75	19.41	0.216	111	1.12	10.9
1520		9.54		5.75	19.62	0.216	115	1.10	8.6
1525		9.60		5.75	19.51	0.216	113	1.08	9.1
1530		9.58		5.75	19.45	0.216	109	1.14	9.8
Sample ID:									

Notes:

(1) The pump intake was placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The drawdown from the initial water level should not exceed 0.33 ft. The pumping rate should not exceed 600 mL/min.

(3) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm. Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing)

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

May 07, 2013

John Schwaller
Environmental Management Associates, LLC
5262 Belle Wood Ct.
Buford GA 30518

TEL: (770) 271-4628
FAX: (770) 271-8944

RE: Southern States

Dear John Schwaller: Order No: 1304P53

Analytical Environmental Services, Inc. received 1 samples on 4/27/2013 9:47:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/12-06/30/13.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/13.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1304P55

Date: _____ Page _____ of _____

COMPANY: EMR/JS

ADDRESS:

PHONE:

FAX:

SAMPLED BY: J. Schwarzin

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	ANALYSIS REQUESTED: METALS	ANALYSIS REQUESTED: TCN	PRESERVATION (See codes): N	PRESERVATION (See codes): SH	REMARKS	No # of Containers
1	MW-21	4/26	1530	X			X	X			RCRA	
2											As	
3											Cd	
4											Cr	
5											Cu	
6											Pb	
7											Ni	
8											Ag	
9											Zn	
10												
11												
12												
13												
14												

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	4/27/13 0930	1: Andrea	4-27-13 9:47
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER_____

PROJECT INFORMATION

PROJECT NAME: Saltmarsh Sources

PROJECT #:

SITE ADDRESS:

SEND REPORT TO: Schwarzin

INVOICE TO:
(IF DIFFERENT FROM ABOVE)

QUOTE #:_____ PO#:_____

RECEIPT

Total # of Containers

Turnaround Time Request

- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other _____

STATE PROGRAM (if any): _____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 7-May-13

Client:	Environmental Management Associates, LLC	**Client Sample ID:**	MW-21
Project Name:	Southern States	**Collection Date:**	4/26/2013 3:30:00 PM
Lab ID:	1304P53-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP E200.7				**(E200.7)**				
Arsenic	BRL	0.0100		mg/L	175567	1	05/03/2013 18:49	TA
Cadmium	BRL	0.0050		mg/L	175567	1	05/03/2013 18:49	TA
Chromium	BRL	0.0100		mg/L	175567	1	05/03/2013 18:49	TA
Copper	0.0261	0.0250		mg/L	175567	1	05/03/2013 18:49	TA
Lead	BRL	0.0100		mg/L	175567	1	05/03/2013 18:49	TA
Nickel	BRL	0.0200		mg/L	175567	1	05/03/2013 18:49	TA
Silver	BRL	0.0050		mg/L	175567	1	05/03/2013 18:49	TA
Zinc	0.0441	0.0200		mg/L	175567	1	05/03/2013 18:49	TA
Total Cyanide (SM4500 CN-C, E)				**(SM4500-CN-E)**				
Cyanide, Total	BRL	0.010		mg/L	175532	1	05/01/2013 10:00	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EMA / JS Work Order Number 1304P53

Checklist completed by _____ 4/29/13
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.4 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by PT

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Environmental Management Associates, LLC
Project: Southern States
Lab Order: 1304P53

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1304P53-001A	MW-21	4/26/2013 3:30:00PM	Aqueous	Total Metals by ICP		05/02/2013	05/03/2013
1304P53-001C	MW-21	4/26/2013 3:30:00PM	Aqueous	Total Cyanide		04/30/2013	05/01/2013

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1304P53

ANALYTICAL QC SUMMARY REPORT

BatchID: 175532

Sample ID: **MB-175532**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2013**		Run No: **243131**	
SampleType: **MBLK**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **175532**		Analysis Date: **05/01/2013**		Seq No: **5090842**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010	0	0	0	0	0	0	0	0	

Sample ID: **LCS-175532**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2013**		Run No: **243131**	
SampleType: **LCS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **175532**		Analysis Date: **05/01/2013**		Seq No: **5090843**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2563	0.010	0.2500	0	103	90	110	0	0	0	

Sample ID: **1304M89-001BMS**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2013**		Run No: **243131**	
SampleType: **MS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **175532**		Analysis Date: **05/01/2013**		Seq No: **5090856**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.1638	0.010	0.2500	0	65.5	90	110	0	0	0	S

Sample ID: **1304M89-001BMSD**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2013**		Run No: **243131**	
SampleType: **MSD**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **175532**		Analysis Date: **05/01/2013**		Seq No: **5090857**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.1683	0.010	0.2500	0	67.3	90	110	0.1638	2.71	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1304P53

ANALYTICAL QC SUMMARY REPORT

BatchID: 175567

Sample ID: **MB-175567** Client ID: Units: **mg/L** Prep Date: **05/02/2013** Run No: **243333**
SampleType: **MBLK** TestCode: **Total Metals by ICP E200.7** BatchID: **175567** Analysis Date: **05/03/2013** Seq No: **5094890**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0500	0	0	0	0	0	0	0	0	
Cadmium	BRL	0.0050	0	0	0	0	0	0	0	0	
Chromium	BRL	0.0100	0	0	0	0	0	0	0	0	
Copper	BRL	0.0250	0	0	0	0	0	0	0	0	
Lead	BRL	0.0100	0	0	0	0	0	0	0	0	
Nickel	BRL	0.0200	0	0	0	0	0	0	0	0	
Silver	BRL	0.0050	0	0	0	0	0	0	0	0	
Zinc	BRL	0.0500	0	0	0	0	0	0	0	0	

Sample ID: **LCS-175567** Client ID: Units: **mg/L** Prep Date: **05/02/2013** Run No: **243333**
SampleType: **LCS** TestCode: **Total Metals by ICP E200.7** BatchID: **175567** Analysis Date: **05/03/2013** Seq No: **5094889**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.023	0.0500	1.000	0	102	85	115	0	0	0	
Cadmium	1.034	0.0050	1.000	0	103	85	115	0	0	0	
Chromium	1.031	0.0100	1.000	0	103	85	115	0	0	0	
Copper	1.010	0.0250	1.000	0	101	85	115	0	0	0	
Lead	1.026	0.0100	1.000	0	103	85	115	0	0	0	
Nickel	1.032	0.0200	1.000	0	103	85	115	0	0	0	
Silver	0.1012	0.0050	0.1000	0	101	85	115	0	0	0	
Zinc	1.033	0.0500	1.000	0	103	85	115	0	0	0	

Sample ID: **1304P45-004AMS** Client ID: **151525** Units: **mg/L** Prep Date: **05/02/2013** Run No: **243333**
SampleType: **MS** TestCode: **Total Metals by ICP E200.7** BatchID: **175567** Analysis Date: **05/03/2013** Seq No: **5094893**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.022	0.0500	1.000	0	102	70	130	0	0	0	
Cadmium	1.021	0.0050	1.000	0	102	70	130	0	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Management Associates, LLC
Project Name: Southern States
Workorder: 1304P53

ANALYTICAL QC SUMMARY REPORT

BatchID: 175567

Sample ID: **1304P45-004AMS**	Client ID: **151525**			Units: **mg/L**	Prep Date: **05/02/2013**	Run No: **243333**
SampleType: **MS**	TestCode: **Total Metals by ICP** **E200.7**			BatchID: **175567**	Analysis Date: **05/03/2013**	Seq No: **5094893**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium	1.010	0.0100	1.000	0	101	70	130	0	0	0	
Copper	1.015	0.0250	1.000	0	101	70	130	0	0	0	
Lead	1.004	0.0100	1.000	0	100	70	130	0	0	0	
Nickel	1.008	0.0200	1.000	0	101	70	130	0	0	0	
Silver	0.09965	0.0050	0.1000	0	99.6	70	130	0	0	0	
Zinc	1.009	0.0500	1.000	0	101	70	130	0	0	0	

Sample ID: **1304P45-004AMSD**	Client ID: **151525**			Units: **mg/L**	Prep Date: **05/02/2013**	Run No: **243333**
SampleType: **MSD**	TestCode: **Total Metals by ICP** **E200.7**			BatchID: **175567**	Analysis Date: **05/03/2013**	Seq No: **5094895**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.019	0.0500	1.000	0	102	70	130	1.022	0.275	20	
Cadmium	1.015	0.0050	1.000	0	102	70	130	1.021	0.510	20	
Chromium	1.006	0.0100	1.000	0	101	70	130	1.010	0.387	20	
Copper	1.014	0.0250	1.000	0	101	70	130	1.015	0.049	20	
Lead	1.002	0.0100	1.000	0	100	70	130	1.004	0.232	20	
Nickel	1.003	0.0200	1.000	0	100	70	130	1.008	0.458	20	
Silver	0.09907	0.0050	0.1000	0	99.1	70	130	0.09965	0.580	20	
Zinc	1.008	0.0500	1.000	0	101	70	130	1.009	0.165	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ATTACHMENT 2

MIP CVOC RESPONSE SUMMARY
&
FIGURE 12
(EMA, Focused Source Investigation Report, June 25, 2012)

MIP LOCATION	DEPTH (FT. BGS)	ELECTRON CAPTURE RESPONSE ($\mu V \times 10^7$)	PID RESPONSE ($\mu V \times 10^7$)
MIP-01	4	0.05	0
MIP -02	28	0.95	0.2
MIP-03	23	0.09	0
MIP-04	22	>1.0	0.1
MIP-05	12-30	>1.0	0.02
MIP-06	20 -22	>1.0	0.01
MIP-07	17	>1.0	0.01
	22-23	>1.0	0.01
MIP-08	21	0.1	0
MIP-09	**15-36**	**>1.0**	**0.8**
MIP-10	**19-39**	**>1.0**	**0.5**
MIP-11	**18-40**	**>1.0**	**1.0**
MIP-12	**15-32**	**>1.0**	**0.75**
MIP-13	**16-35**	**>1.0**	**0.2**
MIP-14	**12**	**>1.0**	**0**
	18-38	>1.0	0.05
MIP-15	15-26	>1.0	0.05
MIP-16	8	0.25	0
MIP-17	17	>1.0	0.05
	20-23	>1.0	0.1
MIP-18	19	0.1	0
MIP-19	19	0.55	0
MIP-20	25	0.19	0
MIP-21	5	0.15	0

Notes:

- FT. BGS – feet below ground surface
- Electron Capture Response & PID Response – The ECD has primary sensitivity to chlorinated solvents where the PID Response has secondary sensitivity to high chlorinated solvent concentrations. High peaks in both detectors at corresponding depths indicate potential elevated concentrations of chlorinated solvents.
- Locations in bold indicate saturated ECD response and elevated PID and FID responses indicating high levels of chlorinated solvents present.

OAK STREET (PUBLIC R/W VARIES)

APPROXIMATE FORMER LANDFILL BOUNDARY

APPROXIMATE FORMER DRUM STORAGE LOCATION

APPROXIMATE FORMER DRUM STORAGE LOCATION

UNDERGROUND CORRUGATED PIPE

CONDENSATE DRAIN LINE

FORMER VAPOR DEGREASER

FLOOD BOUNDARY

CL CREEK

EXISTING POND

DAM

EXISTING BUILDING

SUB STATION

B.O.B.

T.O.B.

EOP

R/W

CENTRAL AVENUE

GEORGIA AVENUE

SOIL	17–20' BGS
VOC	ND

SOIL	22–25' BGS
VOC	ND

GNDWTR	ug/L
1,1–DCE	6.2

LEGEND

- Property Line
- Chain Link Fence
- MW-11 Overburden Monitoring Well
- MW-10 Bedrock Monitoring Well
- TP-4 Temporary Piezometer
- TOB Top of Embankment
- EOP Edge of Pavement
- MIP-2 Membrane Interface Probe Locations

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURBEYING – FEBRUARY 2012

0 70 140ft

Title: MEMBRANE INTERFACE PROBE / SOIL BORING LOCATIONS

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA Environmental Management Associates, LLC

Facility ID.

Figure 12

ATTACHMENT 3

GROUNDWATER PURGING
&
SAMPLING RECORDS

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: _____

Monitoring Well Data:

Well No.: MW-3 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 13.14

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level*[3] *(ft)*	*pH*	*Temperature °C*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*	*No. of Well Screen Volumes Purged*[4]
1543		13.14		6.41	16.88	0.522	22	2.15	15.4		
1550		13.20		6.12	17.13	0.514	11	1.80	11.4		
1558		13.40		6.12	17.10	0.514	10	1.90	8.8		
1600		13.35		6.12	17.18	0.514	12	1.88	8.4		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p^*(D/2)^{2*}(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: _____

Monitoring Well Data:

Well No.: MW-9 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 15.88

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_P (mL)	No. of Well Screen Volumes Purged[4]
1350	65	15.88		5.74	18.41	0.205	280	1.30	15.1		
1355		15.90		5.74	18.30	0.206	270	1.23	14.1		
1403		15.95		5.73	18.26	0.210	260	1.15	11.2		
1408		16.05		5.66	18.15	0.210	246	1.11	9.3		
1410		11.10		5.60	18.21	0.210	250	1.18	6.8		
1415		16.05		5.60	18.12	0.210	244	1.12	6.4		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s=p^*(D/2)^{2*}(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: _____ BS

Monitoring Well Data:

Well No.: MW-13 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 10.70

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1425	65	10.70		6.80	17.88	0.702	38	1.88	27.2		
1433		10.78		6.82	14.03	0.688	21	1.13	14.8		
1440		10.80		6.84	18.10	0.684	12	1.08	14.4		
1450		10.84		6.84	18.15	0.684	18	1.12	14.6		
1455		10.82		6.84	18.11	0.684	14	1.01	14.0		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s=p*(D/2)^{2}*(5*12)*(2.54)^{3}$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: JJ

Monitoring Well Data:

Well No.: MW-21 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 10.40

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1505	65	10.40		6.21	18.46	0.193	161	4.12	14.1		
1510		10.48		6.11	18.26	0.194	138	2.31	12.6		
1518		10.50		6.11	18.30	0.188	114	2.16	6.3		
1525		10.54		6.11	18.20	0.188	108	2.10	5.7		
1530		10.60		6.11	18.14	0.188	110	2.12	5.5		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: JS

Monitoring Well Data:

Well No.: MW-39 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 9.58

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1305	75	9.58		5.83	19.40	0.413	88	1.65	11.4		
1310	↓	9.63		5.85	15.70	0.415	80	1.62	11.0		
1318		9.69		5.88	15.18	0.418	79	1.50	8.12		
1325		9.78		5.91	15.20	0.418	74	1.40	5.10		
1330		9.80		5.50	15.45	0.418	78	1.70	4.18		
1340	↓	9.79		5.91	19.15	0.418	76	1.34	4.12		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s=p^*(D/2)^{2*}(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: JS

Monitoring Well Data:

Well No.: MW-40 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 13.13

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1055	65	13.13		7.01	17.68	0.714	64	1.13	23.1		
1100		13.20		6.18	17.81	0.711	88	1.49	21.6		
1108		13.31		6.12	17.63	0.714	94	1.34	20.4		
1115		13.70		6.13	17.49	0.718	111	1.36	14.1		
1128		13.38		6.12	17.50	0.712	108	1.38	9.9		
1130		13.74		6.12	17.41	0.712	113	1.31	8.4		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: JS

Monitoring Well Data:

Well No.: MW-41 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 13.28

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1200	65	13.28		6.14	18.14	0.274	145	1.41	21.4		
1210	↓	13.36		5.75	18.12	0.280	123	1.22	19.3		
1215		13.40		5.75	18.09	0.281	115	1.08	7.1		
1220		13.48		5.75	18.14	0.281	108	1.11	6.8		
1230	↓	13.51		5.75	18.04	0.281	111	1.01	6.3		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: JS

Monitoring Well Data:

Well No.: TP-5 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 8.73

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1015	65	8.73		6.77	18.02	0.188	-14	3.18	18.4		
1020		8.80		6.70	17.98	0.165	-75	2.94	12.1		
1028		8.84		6.70	18.04	0.165	-87	2.21	9.2		
1035		8.78		6.70	17.90	0.115	-80	2.15	8.8		
1040		8.80		6.70	17.80	0.165	-88	2.31	7.4		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s=p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: 2/1/12

Ref. No.: _____ Personnel: JS

Monitoring Well Data:

Well No.: TB-6 Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): 9.26

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
0940		9.26		6.43	18.10	0.515	41	3.01	16.3		
0948		9.32		6.44	17.94	0.413	77	2.41	11.4		
0956		9.30		6.31	17.70	0.411	19	2.16	8.9		
1000		9.40		6.33	17.83	0.411	21	2.08	8.1		
1005		9.48		6.33	17.78	0.411	18	2.11	8.33		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

ATTACHMENT 4

STRATIGRAPHIC LOGS BH-1 & BH-2

REVISED FIGURE 12

OAK STREET (PUBLIC R/W VARIES)

APPROXIMATE FORMER LANDFILL BOUNDARY

APPROXIMATE FORMER DRUM STORAGE LOCATION

APPROXIMATE FORMER DRUM STORAGE LOCATION

UNDERGROUND CORRUGATED PIPE

CONDENSATE DRAIN LINE

FORMER VAPOR DEGREASER

FLOOD BOUNDARY

CL CREEK

EXISTING POND

DAM

EXISTING BUILDING

SUB STATION

B.O.B.

T.O.B.

EOP

R/W

CENTRAL AVENUE

GEORGIA AVENUE

SOIL	17–20' BGS
VOC	ND

SOIL	22–25' BGS
VOC	ND

GNDWTR	ug/L
1,1–DCE	6.2

LEGEND

- Property Line
- Chain Link Fence
- MW-11 Overburden Monitoring Well
- MW-10 Bedrock Monitoring Well
- TP-4 Temporary Piezometer
- TOB Top of Embankment
- EOP Edge of Pavement
- MIP-2 Membrane Interface Probe Locations

NOTE:
SITE SURVEY UPDATED BY METRO ENGINEERING & SURBEYING – FEBRUARY 2012

0 70 140ft

Title: MEMBRANE INTERFACE PROBE / SOIL BORING LOCATIONS

Site: SOUTHERN STATES, LLC
Hampton, Georgia

EMA Environmental Management Associates, LLC

Facility ID.

Figure 12

EMA, LLC
5262 Belle Wood Court, Ste A
Buford, GA 30518

Stratigraphic & Instrumentation Log BH-1

Southern States, LLC
30 Georgia Avenue
Hampton, GA 30228

Proj. No 619

Date Completed	: 1/10/12	Driller/Equipment	: GeoLab/GeoProbe DT6600
Northing Coordinate	:	Surface Elev.	:
Easting Coordinate	:	Top of Casing elev.	:
Survey By	:	Logged By	: J. Schwaller

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	DESCRIPTION	Sample ID	Blow Count	PID Reading (ppm)	Lab No.
0	AR	FILL - SAND, GRAVEL, fine, black,brown, dry	1		1.2	
2	ML	NATIVE ML/CL-SAND/CLAY, fine, medium, orange/brown, dry	2		0.8	
4			3		1.0	
6			4		0.7	
8						
10	SM	wet	5		1.0	
12		saprolite	6		0.9	
14						
16			7		0.4	
18	SM		8		2.5	BH-1 17-20
20			9		1.4	
22			10		1.0	
24						

Well Construction Information

WELL CONSTRUCTION

Drilling Method
Hole Diameter

WELL CASING
Material :
Diameter :
Joints :
Interval (ft. bgs)

WELL SCREEN
Material :
Diameter :
Joints :
Opening :
Interval (ft. bgs)

FILTER PACK
Placement Method
Volume :
Interval (ft. bgs)

ANNULUS SEAL
Placement Method
Volume :
Interval (ft. bgs)

PROTECTIVE CASING
Above/Flush :
Cap :

DEVELOPMENT

NOTES:
Boring abandoned with bentonite pellets.

EMA, LLC
5262 Belle Wood Court, Ste A
Buford, GA 30518

Stratigraphic & Instrumentation Log BH-2

Southern States, LLC
30 Georgia Avenue
Hampton, GA 30228

Proj. No 619

Date Completed	: 1/10/12	Driller/Equipment	: GeoLab/GeoProbe DT6600
Northing Coordinate	:	Surface Elev.	:
Easting Coordinate	:	Top of Casing elev.	:
Survey By	:	Logged By	: J. Schwaller

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	DESCRIPTION	Sample ID	Blow Count	PID Reading (ppm)	Lab No.
0	AR	FILL - SAND, GRAVEL, fine, black,brown, dry	1		0.3	
2		NATIVE ML/CL-SILT/CLAY, fine, medium, orange/brown, dry	2		1.0	
4						
6	ML		3		0.5	
8			4		0.5	
10	SM	wet	5		1.1	
12		saprolite	6		1.2	
14						
16			7		1.1	
18	SM		8		0.5	
20			9		0.9	
22			10		0.9	BH-2 22-25
24						

Well Construction Information

WELL CONSTRUCTION

Drilling Method
Hole Diameter

WELL CASING
Material :
Diameter :
Joints :
Interval (ft. bgs)

WELL SCREEN
Material :
Diameter :
Joints :
Opening :
Interval (ft. bgs)

FILTER PACK
Placement Method
Volume :
Interval (ft. bgs)

ANNULUS SEAL
Placement Method
Volume :
Interval (ft. bgs)

PROTECTIVE CASING
Above/Flush :
Cap :

DEVELOPMENT

NOTES:
Boring abandoned with bentonite pellets.

ATTACHMENT 5

MIP SOIL & GROUNDWATER DATA SUMMARY TABLES

INVESTIGATION GROUNDWATER DATA SUMMARY

MIP SOIL DATA				
Sample Location	Date	Depth (ft bgs)	Contaminant	Concentration (µg/kg)
MIP – 11 (MW-39)	3/4/2011	21-23	1,1,1-TCA	27
			1,1,2-TCA	33
			1,1-DCA	420
			1,1-DCE	1400
			Chloroform	5.9
			cis 1,2-DCE	540
			PCE	38
			TCE	78,000
			Vinyl Chloride	71
		31-32	1,1-DCA	6.9
			1,1-DCE	16
			TCE	9000
		35	1,1 DCA	230
			1,1-DCE	750
			TCE	35,000
MIP-4 (TP-3)	3/4/2011	21-22	1,1,1-TCA	2200
			1,1-DCA	1300
			1,1-DCE	110
			Chlorethane	7.0
			Chloroform	4.4

MIP GROUNDWATER DATA			
Sample Location	Date	Contaminant	Concentration (µg/L)
MIP – 4 (TP-4)	3/11/2011	1,1,1-TCA	24
		1,1-DCA	5.8
		1,1-DCE	11
		Acetone	56
		TCE	14
MIP-7 (TP-3)	3/11/2011	1,1,1-TCA	1300
		1,1-DCA	450
		1,1-DCE	910
		Chloroethane	33
		cis-1,2-DCE	40
		TCE	510
		Vinyl Chloride	8.4
MIP-11 (MW-39)	3/11/2011	1,1-DCE	5000
		TCE	180,000
	4/1/2011	1,1-DCE	5300
		TCE	290,000

SUMMARY OF DETECTED COMPOUNDS
SELECT MONITORING WELLS
SOUTHERN STATES, LLC.
HAMPTON, GEORGIA

Location ID:		***MW-3***	***MW-9***	***MW-13***	***MW-21***	***MW-39***	***MW-40***	***MW-41***	***TP-5***	***TP-6***
Sample Name:		***MW-3***	***MW-9***	***MW-13***	***MW-21***	***MW-39***	***MW-40***	***MW-41***	***TP-5***	***TP-6***
Sample Date:		***2/1/12***	***2/1/12***	***2/1/12***	***2/1/12***	***2/1/12***	***2/1/12***	***2/1/12***	***2/1/12***	***2/1/12***
Parameters	***Units***									
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	NT	NT	NT	NT	NT	5.0 U	5.0 U	5.0 U	**1100**
1,1,2-Trichloroethane	ug/L	NT	NT	NT	NT	NT	**6.3**	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	ug/L	NT	NT	NT	NT	NT	**53**	**38**	5.0 U	**1100**
1,1-Dichloroethene	ug/L	NT	NT	NT	NT	NT	**75**	**51**	5.0 U	**710**
Acetone	ug/L	NT	NT	NT	NT	NT	50 U	50 U	50 U	50 U
Carbon tetrachloride	ug/L	NT	NT	NT	NT	NT	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	ug/L	NT	NT	NT	NT	NT	10 U	10 U	10 U	**27**
Chloroform (Trichloromethane)	ug/L	NT	NT	NT	NT	NT	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	NT	NT	NT	NT	NT	**1200**	**880**	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	NT	NT	NT	NT	NT	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	ug/L	NT	NT	NT	NT	NT	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	ug/L	NT	NT	NT	NT	NT	**8.9**	5.0 U	5.0 U	5.0 U
Trichloroethene	ug/L	NT	NT	NT	NT	NT	**2100**	**3500**	5.0 U	5.0 U
Vinyl chloride	ug/L	NT	NT	NT	NT	NT	**15**	**3.8**	2.0 U	**8.3**
Tetrachloroethane	ug/L	NT	NT	NT	NT	NT	5.0 U	**8.1**	5.0 U	5.0 U
Total chlorinated VOCs	ug/L	NT	NT	NT	NT	NT	3458	4481	ND	2945.3
Total Metals										
Cadmium	mg/L	BDL (0.005)	BDL (0.005)	BDL (0.005)	NT	BDL (0.005)	NT	NT	NT	NT
Chromium	mg/L	BDL (0.01)	BDL (0.01)	BDL (0.01)	NT	BDL (0.01)	NT	NT	NT	NT
Copper	mg/L	0.0166	BDL (0.01)	0.0693	NT	BDL (0.01)	NT	NT	NT	NT
Lead	mg/L	BDL (0.01)	BDL (0.01)	0.0425	NT	BDL (0.01)	NT	NT	NT	NT
Nickel	mg/L	BDL (0.02)	0.0325	BDL (0.02)	NT	BDL (0.02)	NT	NT	NT	NT
Selenium	mg/L	BDL (0.02)	BDL (0.02)	BDL (0.02)	NT	BDL (0.02)	NT	NT	NT	NT
Silver	mg/L	BDL (0.01)	BDL (0.01)	BDL (0.01)	NT	BDL (0.01)	NT	NT	NT	NT
Zinc	mg/L	BDL (0.02)	BDL (0.02)	BDL (0.02)	NT	BDL (0.02)	NT	NT	NT	NT
Total Cyanide	mg/L	BDL (0.01)	BDL (0.01)	BDL (0.01)	NT	BDL (0.01)	NT	NT	NT	NT
Polychlorinated Biphenyls										
Arochlor-1016	ug/L	NT	BDL (0.50)	BDL (0.50)	BDL (0.50)	BDL (0.50)	NT	NT	NT	NT
Arochlor-1221	ug/L	NT	BDL (0.50)	BDL (0.50)	BDL (0.50)	BDL (0.50)	NT	NT	NT	NT
Arochlor-1232	ug/L	NT	BDL (0.50)	BDL (0.50)	BDL (0.50)	BDL (0.50)	NT	NT	NT	NT
Arochlor-1242	ug/L	NT	BDL (0.50)	BDL (0.50)	BDL (0.50)	BDL (0.50)	NT	NT	NT	NT
Arochlor-1248	ug/L	NT	BDL (0.50)	BDL (0.50)	BDL (0.50)	BDL (0.50)	NT	NT	NT	NT
Arochlor-1254	ug/L	NT	BDL (0.50)	BDL (0.50)	BDL (0.50)	BDL (0.50)	NT	NT	NT	NT
Arochlor-1260	ug/L	NT	BDL (0.50)	BDL (0.50)	BDL (0.50)	BDL (0.50)	NT	NT	NT	NT

Notes:
ug/L - micrograms per liter
mg/L - milligrams per liter
5.0 U - not detected at associated method reporting limit
"NT" Not analyzed
ND - not detected