SEMI-ANNUAL STATUS REPORT #6

310 Vine Street (aka Rodney Cook Senior Park) VRP Site
Atlanta, Fulton County, Georgia 30314

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28 June 2018

Mr. David Hayes and Mr. William Lucas
Response and Remediation Program
Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King, Jr. Drive, SW, Suite 1054
Atlanta, Georgia 30334

Subject: 310 Vine Street (aka Rodney Cook Senior Park) VRP Site
Semi-Annual Status Report #6

Dear Mr. Hayes and Mr. Lucas:

Wood Environment & Infrastructure Solutions, Inc. (Wood, formerly Amec Foster Wheeler Environment & Infrastructure, Inc.), on behalf of the City of Atlanta's Department of Watershed Management (COA DWM), respectfully submits this sixth Semi-Annual Status Report required under the Voluntary Investigation and Remediation Plan (VIRP) for the subject property that was approved by the Georgia Environmental Protection Division (EPD) in a letter dated June 15, 2015.

RECAP OF SEMI-ANNUAL STATUS REPORT #5

Semi-Annual Status Report #5 (Status Report #5), which was submitted on November 13, 2017, included details of project planning in preparation for field implementation of the park development project including the following:

1) COA DWM placed the project for bid with several experienced local contractors in July 2017 using the 90% Design Drawings,
2) COA DWM selected and signed a contract with Astra/Rohadfox in August 2017,
3) COA DWM prepared a Quality Assurance Management Plan dated September 2017 that supplements the Project Specifications and Drawings,
4) COA DWM contracted with Astra/Rohadfox in September 2017 to act as the Construction Manager at Risk (CMAR) for the park development project, and
5) On October 31, 2017, after soliciting bids from local contractors to perform the different elements of the project, COA DWM determined that Astra/Rohadfox would perform the soil remediation work.

COA DWM received no comments from the EPD on its November 13, 2017 progress report.

WORK COMPLETED DURING THE SIXTH REPORTING PERIOD

Following submittal of Status Report #5, COA DWM continued to prepare for the development of the 12.9-acre property as a public park in conjunction with the construction of a stormwater management impoundment to control and regulate stormwater into the combined sewer (i.e. peak shaving). JP2, a joint venture lead by the PRAD Group, coordinated the design team and retained Wood as the environmental consultant on the project.

Astra/Rohadfox prepared and submitted several documents in preparation for the field effort including a project-specific Health and Safety Plan, Quality Control Plan, Security Plan, Dewatering Plan, and Demolition and Remediation Plan. In addition to these submittals, Astra/Rohadfox obtained the following approvals and permits.

1) National Pollutant Discharge Elimination System (NPDES) Discharge Permit,
2) Design Drawing approval from COA, including the Erosion and Sedimentation Control (ESC) Drawings,
3) Haul Route Permit from COA,
4) Borrow Source Pre-Qualification, and
5) Waste Profile Acceptance from Republic Services, Inc.

With approval of the Astra/Rohadfox field plans and receipt of the necessary permits, field mobilization for implementation of the project was initiated on December 20, 2017. Site preparation activities including site clearing/grubbing, installation of ESC control measures, installation of temporary fencing and mobilization of equipment were conducted in advance of the soil excavation work. During the soil remediation work conducted by Astra/Rohadfox, Contour Engineering was engaged by them to collect confirmation soil samples and submit to AES Laboratories for analysis. Astra/Rohadfox performed field surveys to establish the locations of the soil samples and the depth and limits of the excavation.

Soil Excavation

The goal of soil remediation is to remove and properly dispose of soils with concentrations of lead exceeding 400 mg/kg (i.e. parts per million by weight). The soil remediation effort has been divided into the following three areas as shown on the attached **Figure 1**:

- The Main Remediation Area which includes the stormwater impoundment and the bulk of the park contained within the area encompassed by Walnut Street, Thurmond Street, Elm Street, and Joseph E. Boone Boulevard (north-south grids J-GG & east-west grids 1-22),
- The Northwest Remediation Area located near the corner of Joseph E. Boone Boulevard and Elm Street (north-south grids A-E & east-west grids 18-22), and
- The Southwest Remediation Area located along the north side of Spencer Street which is planned for future expansion upon acquisition of properties to the west (north-south grids OO-UU & east-west grids 18-25).

Soil excavation in the Main Remediation Area of the site began on February 6, 2018. The approximate extent of the soil excavation is identified in the Project Specifications and Drawings.

The actual extent of the soil excavation was guided by visual observations. In areas where visual observations identified dark staining and/or the presence of slag that indicated the presence of lead-impacted soils, the excavation progressed either vertically or horizontally as needed.

The soil was excavated and stockpiled on-site in approximate 500-ton increments. The stockpiles were then sampled using a five-point composite method and the sample was analyzed for lead by the TCLP method for characterization. With TCLP results less than 5 mg/L lead, the soils were loaded and transported off-site for disposal at the Republic Services Pine Ridge Landfill (Landfill) located in Griffin, Georgia. Only one 500-ton stockpile (ST-025) did not pass the TCLP analysis and the soil required stabilization using *Enviroblend*. Upon completion of the stabilization process, the stockpile was re-sampled (ST-025A) and analyzed for lead by the TCLP method. The results for ST-025A (<0.05 mg/L) indicated that the soils were non-hazardous and the stockpile was then loaded and transported to the Landfill. Lead TCLP results for the 59 stockpiles (designated ST-001 – ST-059) are summarized in **Table 1** and the associated laboratory reports are included in **Appendix A**.

A total of 33,260.75 tons of soil were excavated, stockpiled, characterized, loaded and transported offsite for disposal at the Landfill during the remediation activities. This includes some soil that was removed from the Southwest Remediation Area. In addition, a total of 1,644.38 tons of debris consisting of concrete, asphalt, vegetation, etc. was also disposed of. Tonnage that has been transported to the Landfill for disposal is included in **Table 2**. Waste manifests and weight tickets are included in **Appendix B**. The soil excavation in the Main Remediation Area is complete. As such, construction of the stormwater impoundment and the public park will begin. This work includes the import of off-site borrow source soils for use as fill.

For the Southwest Remediation Area, preliminary test pit excavations were performed just north of Spencer Street, between Vine Street and the unowned properties east of Elm Street. The depth of the lead impacts at this location have been identified to at least 12 feet below ground surface (bgs). Because this area abuts Spencer Street and additional property acquisitions are required, additional logistics and coordination are necessary to complete the excavation. The properties located along Elm Street are required for the soil excavation in the Southwest Remediation Area of the project. Once acquisition of the parcels is complete, COA DWM will conduct the soil excavation in the Southwest Remediation Area.

Soil Confirmation Sampling

The site was laid out on a grid system to track the soil confirmation sample locations in footprint increments of 625 square feet. The grid layout is included as **Figure 1**. One excavation floor sample was collected per 625 square feet or fraction thereof by combining a five-point composite soil sample into one grab sample. Groundwater was only encountered in a few isolated spots and soil samples were collected from all grids.

The excavation sidewall samples were collected at a frequency of one for every 25 horizontal feet and each 5 vertical feet of excavation sidewall or fraction thereof. Sidewall sample locations are shown on **Figure 2** and **Figure 3**.

In total, approximately 93% of the soil confirmation samples (sidewall and floor) exhibited total lead concentrations of less than 400 mg/kg. In those areas where soil confirmation samples

exceeded 400 mg/kg, additional excavation was conducted and additional soil confirmation samples were collected until soil confirmation sample results were below 400 mg/kg; however, in the case of some sidewall samples, the excavation was terminated along the property line. Soil confirmation sample results are summarized in **Table 3** and the associated laboratory reports are included in **Appendix A**. Refer to **Figures 2 and 3** for field surveys of the soil confirmation sample locations and the depth and extent of the excavation.

Borrow Source Pre-Qualification

Astra/Rohadfox proposed to import borrow soils for use as backfill from a stockpile of excess soil at the Grant Park Parking Deck construction project currently in progress. On April 17, 2018, Contour Engineering, collected two grab soil samples from the stockpiled soil to evaluate its environmental suitability for reuse at the Rodney Cook Senior Park project.

The two grab samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total Priority Pollutant metals, polychlorinated biphenyls (PCBs) and pesticides/herbicides in accordance with the project Specifications. Refer to Contour's Technical Memorandum dated April 23, 2018 and attached as **Appendix C**.

The only detected constituents were the metals barium, chromium, cobalt, copper, lead, nickel, thallium, vanadium and zinc. The results of the analyses were compared with the Hazardous Site Response Act (HSRA) Type 1 risk reduction standard (RRS) for residential use. The comparison revealed only thallium exceeding its Type 1 RRS of 2 mg/kg. No other constituents were found in excess of Type 1 RRS. As a result, Contour personnel returned to the Grant Park Parking Deck construction site and collected an additional 15 grab soil samples from the stockpiled soil for thallium analysis. Refer to Contour's Technical Memorandum dated May 25, 2018 and attached as **Appendix C**.

Analytical results associated with the additional 15 soil grab samples indicated concentrations of thallium in all samples less than the Type 1 RRS, including concentrations below the reporting limit. As such, Contour requested the laboratory to re-analyze the original two soil grab samples via EPA Method 6020B. The results of the re-analysis indicated thallium was below the laboratory reporting limit and below the HSRA Type 1 RRS. Based upon the analytical results of the 15 additional soil grab samples and the re-analysis of the original two soil grab samples, there were no exceedances of the HSRA Type 1 RRS for thallium and the backfill soil from the Grant Park Parking Deck construction project was accepted for fill at the Rodney Cook Senior Park project.

Property Acquisitions

As was indicated in Status Report #5, COA DWM has continued its efforts to acquire property for the park project. See the next section for additional detail.

WORK ANTICIPATED DURING NEXT REPORTING PERIOD

Property acquisitions are necessary for the development of the public park. COA DWM will continue acquisition/transfer of properties located on Tyler Street, Thurmond Street, Walnut Street, and Joseph E Boone Boulevard. The properties located along Elm Street are required for the soil excavation in the Southwest Remediation Area of the project. Once acquisition of the parcels is complete, COA DWM will conduct the soil excavation in the Southwest Remediation Area. This work will be conducted as a future phase of work.

REPORT PERIOD CONCLUSION

Wood concludes that the soil remediation is complete in the Main Remediation Area of the site as demonstrated in this progress report in accordance with the VRP Application dated January 7, 2015 and as amended in the Semi-Annual Progress Report dated April 5, 2017 and acknowledged by GA EPD in a letter dated May 11, 2017. Therefore, COA DWM requests that GA EPD provide written concurrence with this conclusion so that construction of the stormwater impoundment and pubic park can continue in the Main Remediation Area, including the import of off-site borrow source soils for use a fill.

REPORT PERIOD LEVEL OF EFFORT

The COA DWM has expended several hundred hours during this reporting period in preparation and execution of the field effort associated with the Rodney Cook Senior Park project. In addition to the soil excavation work, continued planning, scheduling, contracting, regulatory interaction and property acquisition have been ongoing for the majority of the reporting period. This level of effort is expected to continue in the next reporting period.

Wood has assisted in this effort. Professional Certification is provided in **Appendix D**. A breakdown of professional service hours with a description of the services provided is included as **Appendix E**.

If you have any questions regarding the information contained herein, please contact the undersigned.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

Dustin J. Heizer
Senior Project Manager

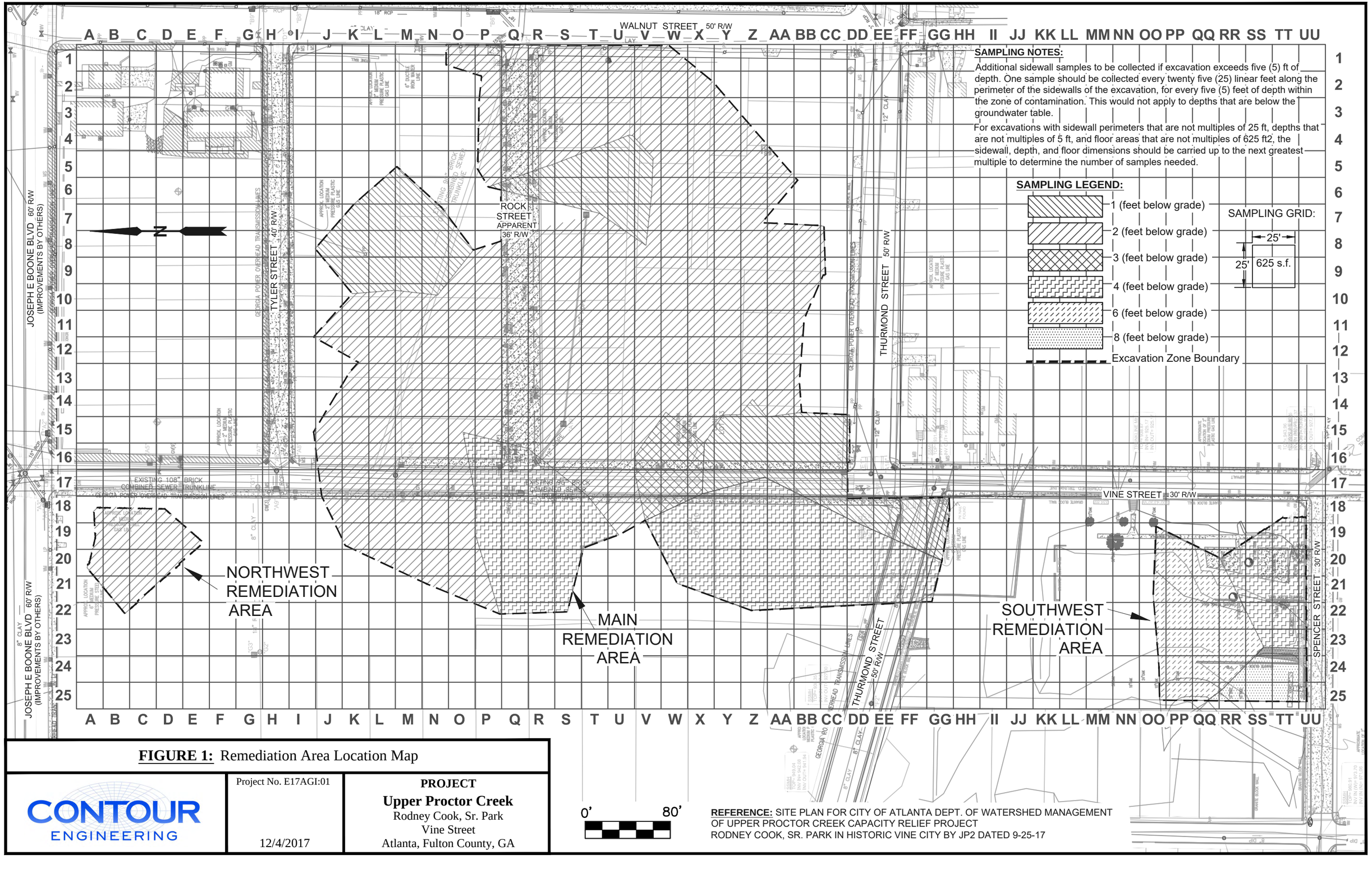
Charles T. Ferry, P.E.
Senior Principal Engineer

cc: Mr. Todd Hill, P.E., City of Atlanta Office of Watershed Protection
Mr. Cory Rayburn, City of Atlanta Department of Watershed Management
Mrs. J. Kristina Teepen Garcia, P.G., City of Atlanta
Ms. Susan U. Major, P.E., PRAD Group

Attachments: Figures
Tables

Appendices: A - Soil Characterization and Confirmation Sample Laboratory Reports
B - Waste Manifests and Weight Tickets
C - Contour Engineering Technical Memorandums
D - Professional Certification
E - Summary of Professional Hours

FIGURES



SAMPLING NOTES:

Additional sidewall samples to be collected if excavation exceeds five (5) ft of depth. One sample should be collected every twenty five (25) linear feet along the perimeter of the sidewalls of the excavation, for every five (5) feet of depth within the zone of contamination. This would not apply to depths that are below the groundwater table.

For excavations with sidewall perimeters that are not multiples of 25 ft, depths that are not multiples of 5 ft, and floor areas that are not multiples of 625 ft2, the sidewall, depth, and floor dimensions should be carried up to the next greatest multiple to determine the number of samples needed.

SAMPLING LEGEND:

- 1 (feet below grade)
- 2 (feet below grade)
- 3 (feet below grade)
- 4 (feet below grade)
- 6 (feet below grade)
- 8 (feet below grade)
- Excavation Zone Boundary

SAMPLING GRID:

REFERENCE: SITE PLAN FOR CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT OF UPPER PROCTOR CREEK CAPACITY RELIEF PROJECT RODNEY COOK, SR. PARK IN HISTORIC VINE CITY BY JP2 DATED 9-25-17

FIGURE 1: Remediation Area Location Map

CONTOUR ENGINEERING

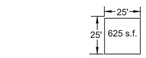
Project No. E17AGI:01

12/4/2017

PROJECT

Upper Proctor Creek
Rodney Cook, Sr. Park
Vine Street
Atlanta, Fulton County, GA

TYPICAL SAMPLING GRID:



SAMPLING NOTES:

FIVE-POINT COMPOSITE SAMPLE COLLECTED FROM EACH GRID FLOOR

SIDEWALL SAMPLES COLLECTED AS GRAB SAMPLES AT THE MID POINT OF EXCAVATION SIDEWALL. FOR EXCAVATION GREATER THAN FIVE FEET. TWO SIDEWALL SAMPLES WERE COLLECTED.

PLEASE REFER TO CONFIRMATION SOIL SAMPLE LABORATORY DATA TABLE FOR SAMPLE DATA.

CONFIRMATION SOIL SAMPLES COLLECTED FROM MARCH 7, 2018 TO JUNE 15, 2018. PLEASE REFERENCE CONFIRMATION SAMPLE DATA TABLE FOR EXACT DATES EACH SAMPLE COLLECTED.

LEGEND:

- SAMPLE LOCATION
- EXCAVATION BOUNDARY
- TOPOGRAPHIC ELEVATION CONTOUR
- 925 TOPOGRAPHIC ELEVATION

REFERENCE:
TOPOGRAPHIC SURVEY FOR ASTRA ROHAFOX OF UPPER PROCTOR CREEK CAPACITY RELIEF PROJECT BY MITCHELL SURVEYING & CONSULTING, LLC DATED 6-21-2018

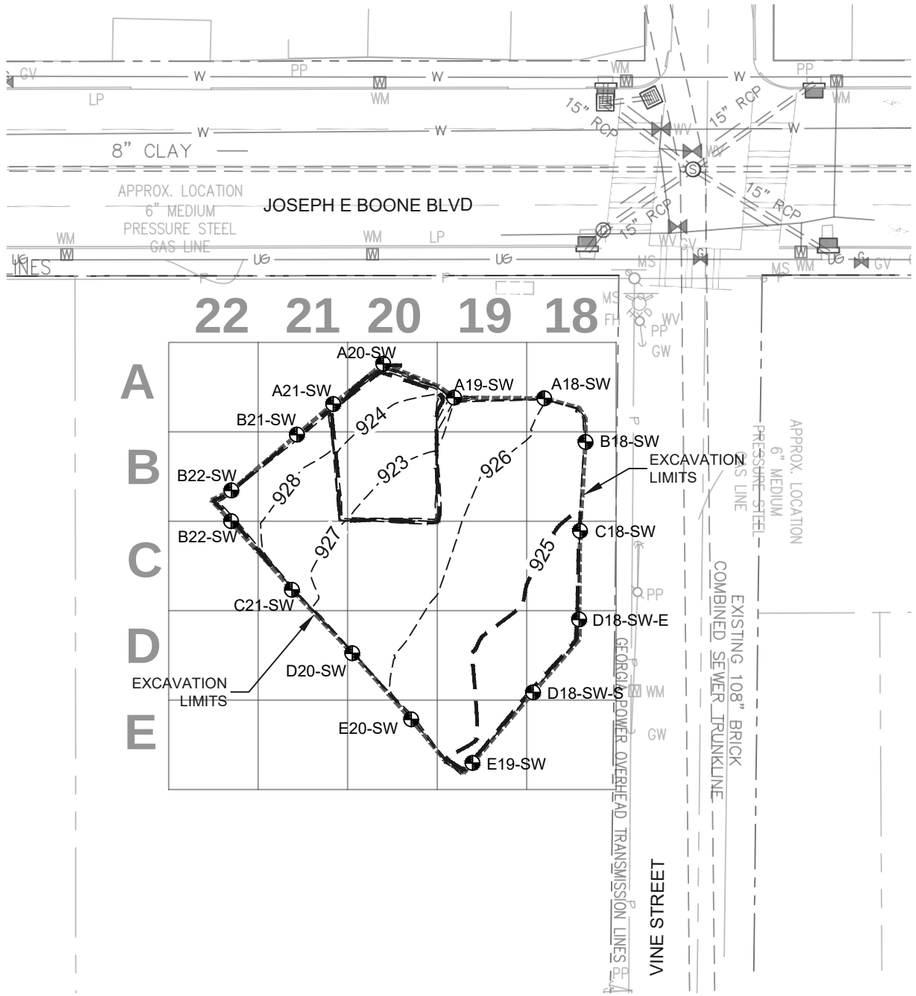
0' 40'
SCALE: 1" = 40'

FIGURE 2: Confirmation Sampling Location Map Main Remediation Area (As-Built)

CONTOUR ENGINEERING

6/25/2018

PROJECT
Upper Proctor Creek
Rodney Cook, Sr. Park
Vine Street
Atlanta, Fulton County, GA



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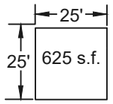

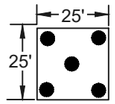

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PLEASE REFER TO CONFIRMATION SOIL SAMPLE LABORATORY DATA TABLE FOR SAMPLE DATA.

CONFIRMATION SOIL SAMPLES COLLECTED FROM MARCH 7, 2018 TO JUNE 15, 2018. PLEASE REFERENCE CONFIRMATION SAMPLE DATA TABLE FOR EXACT DATES EACH SAMPLE COLLECTED.

LEGEND:

- SAMPLE LOCATION
- EXCAVATION BOUNDARY
- TOPOGRAPHIC ELEVATION CONTOUR
- 925 TOPOGRAPHIC ELEVATION

REFERENCE:
TOPOGRAPHIC SURVEY FOR ASTRA ROHAFOX OF UPPER PROCTOR CREEK CAPACITY RELIEF PROJECT BY MITCHELL SURVEYING & CONSULTING, LLC DATED 6-21-2018

0' 40'
SCALE: 1" = 40'

FIGURE 3: Confirmation Sampling Location Map Northwest Remediation Area (As-Built)

CONTOUR ENGINEERING

Project No. E17AGI:01

6/25/2018

PROJECT
Upper Proctor Creek
Rodney Cook, Sr. Park
Vine Street
Atlanta, Fulton County, GA

TABLES

Table 1 - Soil Stockpile Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

Soil Stockpile ID	Date Sampled	Approximate Tonnage	Date Results Received	TCLP Lead Sample Result (mg/L)	DWM Approval for Offsite Disposal	Batch ID	Republic Approval Received	Cumulative Volume Approved by Republic	Comments
ST-001	2/6/2018	500	2/9/2018	0.704	2/12/2018	001	Yes	350	
ST-002	2/8/2018	500	2/13/2018	0.131	2/15/2018	002	Yes	1170	Batch 002 includes four 30 CY Rolloffs for stumps
ST-003	2/9/2018	500	2/13/2018	0.114	2/15/2018	002	Yes	1170	
ST-004	2/14/2018	500	2/20/2018	0.134	2/20/2018	003	Yes	2220	
ST-005	2/15/2018	500	2/20/2018	0.105	2/20/2018	003	Yes	2220	
ST-006	2/15/2018	500	2/20/2018	0.162	2/20/2018	003	Yes	2220	
ST-007	2/15/2018	500	2/20/2018	0.06	2/21/2018	004	Yes	3510	Batch 004 includes 47 20-CY (940 CY) Rolloffs for concrete
ST-008	2/19/2018	500	2/22/2018	0.118	2/23/2018	005	Yes	3860	
ST-009	2/19/2018	500	2/22/2018	0.122	2/23/2018	005	Yes	4210	
ST-010	2/20/2018	500	2/23/2018	0.131	2/26/2018	006	Yes	4560	
ST-011	2/23/2018	500	2/27/2018	0.0728	2/28/2018	007	Yes	4910	
ST-012	2/23/2018	500	2/28/2018	0.125	3/1/2018	008	Yes	5260	
ST-013	2/27/2018	500	3/1/2018	<0.05	3/2/2018	009	Yes	5610	
ST-014	3/5/2018	500	3/6/2018	0.108	3/7/2018	010	Yes	6080	Batch 010 includes four 30CY roll offs for stumps
ST-015	3/5/2018	500	3/6/2018	0.139	3/7/2018	010	Yes	6430	
ST-016	3/5/2016	500	3/7/2018	0.211	3/8/2018	011	Yes	6780	
ST-017	3/9/2018	500	3/12/2018	0.142	3/13/2018	012	Yes	7130	
ST-018	3/12/2018	500	3/13/2018	0.122	3/14/2018	013	Yes	8240	Batch 013 includes 760 CY for Concrete/Asphalt
ST-019	3/13/2018	500	3/14/2018	0.0745	3/15/2018	014	Yes	8590	
ST-020	3/13/2018	500	3/15/2018	0.17	3/16/2018	015	Yes	8940	
ST-021	3/14/2018	500	3/15/2018	0.154	3/16/2018	015	Yes	9290	
ST-022	3/14/2018	500	3/15/2018	0.125	3/16/2018	015	Yes	9640	
ST-023	3/14/2018	500	3/15/2018	0.182	3/16/2018	015	Yes	9990	
ST-024	3/14/2018	500	3/16/2018	3.13	3/19/2018	016	Yes	10340	
ST-025/ST-025A	3/15/2018	500	3/19/2018	7.11/<0.05	3/30/2018	022	Yes	10690	Stabilized and Resampled
ST-026	3/15/2018	500	3/19/2018	4.09	3/20/2018	017	Yes	11040	
ST-027	3/16/2018	500	3/20/2018	0.135	3/21/2018	018	Yes	11390	
ST-028	3/19/2018	500	3/20/2018	0.502	3/21/2018	018	Yes	11740	
ST-029	3/19/2018	500	3/20/2018	0.284	3/21/2018	018	Yes	12090	
ST-030	3/21/2018	500	3/22/2018	0.267	3/23/2018	019	Yes	12440	
ST-031	3/21/2018	500	3/23/2018	<0.050	3/26/2018	020	Yes	12790	
ST-032	3/22/2018	500	3/23/2018	0.131	3/26/2018	020	Yes	13140	
ST-033	3/23/2018	500	3/26/2018	0.127	3/27/2018	021	Yes	13490	
ST-034	3/23/2018	500	3/26/2018	<0.050	3/27/2018	021	Yes	13840	
ST-035	3/29/2018	500	4/2/2018	0.184	4/3/2018	023	Yes	14190	
ST-036	3/29/2018	500	4/2/2018	2.77	4/3/2018	023	Yes	14540	
ST-037	4/2/2018	500	4/3/2018	0.297	4/4/2018	024	Yes	14890	
ST-038	4/2/2018	500	4/4/2018	0.380	4/5/2018	025	Yes	15240	
ST-039	4/3/2018	500	4/4/2018	0.0991	4/5/2018	025	Yes	15590	
ST-040	4/3/2018	500	4/4/2018	<0.050	4/5/2018	025	Yes	15940	
ST-041	4/5/2018	500	4/5/2018	0.993	4/9/2018	026	Yes	16290	

Table 1 - Soil Stockpile Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

Soil Stockpile ID	Date Sampled	Approximate Tonnage	Date Results Received	TCLP Lead Sample Result (mg/L)	DWM Approval for Offsite Disposal	Batch ID	Republic Approval Received	Cumulative Volume Approved by Republic	Comments
ST-042	4/5/2018	500	4/5/2018	1.23	4/9/2018	026	Yes	16640	
ST-043	4/6/2018	500	4/9/2018	0.197	4/10/2018	027	Yes	16990	
ST-044	4/9/2018	500	4/10/2018	2.79	4/11/2018	028	Yes	17340	
ST-045	4/9/2018	500	4/10/2018	0.172	4/11/2018	028	Yes	17690	
ST-046	4/10/2018	500	4/11/2018	<0.05	4/12/2018	029	Yes	18040	
ST-047	4/10/2018	500	4/12/2018	0.284	4/12/2018	030	Yes	18390	
ST-048	4/11/2018	500	4/16/2018	0.146	4/16/2018	031	Yes	18740	
ST-049	4/13/2018	500	4/17/2018	0.319	4/18/2018	032	Yes	19090	
ST-050	4/17/2018	500	4/18/2018	0.211	4/18/2018	033	Yes	19440	
ST-051	4/17/2018	500	4/18/2018	0.157	4/18/2018	033	Yes	19790	
ST-052	4/30/2018	500	5/2/2018	0.0309	5/3/2018	034	Yes	20490	
ST-053	5/1/2018	500	5/3/2018	0.225	5/4/2018	035	Yes	20840	
ST-054	5/7/2018	500	5/8/2018	0.170	5/9/2018	036	Yes	21190	
ST-055	5/9/2017	500	5/10/2018	1.21	5/11/2018	037	Yes	21540	
ST-056	5/15/2018	500	5/16/2018	0.137	5/17/2018	038	Yes	21890	
ST-057	5/22/2018	500	5/23/2018	0.222	5/24/2018	039	Yes	22240	
ST-058	6/1/2018	500	6/4/2018	0.165	6/7/2018	040	Yes	22590	
ST-059	6/11/2018	500	6/13/2018	0.323	6/14/2018	041	Yes	22940	

Table 2 - Soil and Debris Tonnage Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

Soil			
Date	**Loads**	**Weekly Tonnage**	**Cumulative Totals**
2/11/2018 - 2/17/2018	47	726.28	726.28
2/18/2018 - 2/24/2018	101	1,827.30	2,553.58
2/25/2018 - 3/3/2018	130	2,301.83	4,855.41
3/4/2018 - 3/11/2018	130	2,166.12	7,021.53
3/12/2018 - 3/18/2018	107	2,225.74	9,247.27
3/19/2018 - 3/25/2018	259	5,143.10	14,390.37
3/26/2018 - 4/1/2018	137	2,762.46	17,152.83
4/2/2018 - 4/8/2018	173	3,632.16	20,784.99
4/9/2018 - 4/15/2018	130	2,793.79	23,578.78
4/16/2018 - 4/22/2018	170	3,234.21	26,812.99
4/23/2018 - 4/29/2018	30	589.71	27,402.70
4/30/2018 - 5/6/2018	43	896.40	28,299.10
5/7/2018 - 5/13/2018	51	1,056.18	29,355.28
5/14/2018 - 5/20/2018	71	1,434.02	30,789.30
5/21/2018 - 5/27/2018	28	556.58	31,345.88
5/28/2018 - 6/3/2018	0	0	31,345.88
6/4/2018 - 6/10/2018	52	1,100.5	32,446.38
6/11/2018 - 6/17/2018	14	297.86	32,744.24
	1673		

Stabilized Soil (ST-025)			
Date	**Loads**	**Daily Tonnage**	**Cumulative Totals**
4/2/2018	26	516.51	516.51
	26		516.51

Table 2 - Soil and Debris Tonnage Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

Tree Stumps			
Date	**Loads**	**Weekly Tonnage**	**Cumulative Totals**
2/11/2018 - 2/17/2018	0	0	0
2/18/2018 - 2/24/2018	4	41.68	41.68
2/25/2018 - 3/3/2018	0	0	41.68
3/4/2018 - 3/11/2018	1	9.63	51.31
3/12/2018 - 3/18/2018	3	32.68	83.99
3/19/2018 - 3/25/2018	1	4.21	88.2
3/26/2018 - 4/1/2018	2	25.55	113.75
4/2/2018 - 4/8/2018	1	12.96	126.71
4/9/2018 - 4/15/2018	0	0	126.71
4/16/2018 - 4/22/2018	0	0	126.71
4/23/2018 - 4/29/2018	0	0	126.71
4/30/2018 - 5/6/2018	0	0	126.71
5/7/2018 - 5/13/2018	0	0	126.71
5/14/2018 - 5/20/2018	0	0	126.71
5/20/2018 - 5/27/2018	0	0	126.71
5/28/2018 - 6/3/2018	0	0	126.71
6/4/2018 - 6/10/2018	0	0	126.71
6/11/2018 - 6/17/2018	0	0	126.71

Concrete			
Date	**Loads**	**Weekly Tonnage**	**Cumulative Totals**
2/11/2018 - 2/17/2018	0	0	0
2/18/2018 - 2/24/2018	8	111.61	111.61
2/25/2018 - 3/3/2018	11	161.83	273.44
3/4/2018 - 3/11/2018	13	174.59	448.03
3/12/2018 - 3/18/2018	2	27.84	475.87
3/19/2018 - 3/25/2018	1	14.16	490.03
3/26/2018 - 4/1/2018	0	0	490.03
4/2/2018 - 4/8/2018	0	0	490.03
4/9/2018 - 4/15/2018	0	0	490.03
4/16/2018 - 4/22/2018	0	0	490.03
4/23/2018 - 4/29/2018	0	0	490.03
5/7/2018 - 5/13/2018	0	0	490.03
5/14/2018 - 5/20/2018	0	0	490.03
5/20/2018 - 5/27/2018	0	0	490.03
5/28/2018 - 6/3/2018	0	0	490.03
6/4/2018 - 6/10/2018	0	0	490.03
6/11/2018 - 6/17/2018	0	0	490.03

Table 2 - Soil and Debris Tonnage Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

Asphalt

Date	Loads	Weekly Tonnage	Cumulative Totals
2/11/2018 - 2/17/2018	0	0	0
2/18/2018 - 2/24/2018	0	0	0
2/25/2018 - 3/3/2018	0	0	0
3/4/2018 - 3/11/2018	0	0	0
3/12/2018 - 3/18/2018	42	633.25	633.25
3/19/2018 - 3/25/2018	3	51.7	684.95
3/26/2018 - 4/1/2018	0	0	684.95
4/2/2018 - 4/8/2018	0	0	684.95
4/9/2018 - 4/15/2018	0	0	684.95
4/16/2018 - 4/22/2018	0	0	684.95
4/23/2018 - 4/29/2018	23	336.91	1,021.86
5/7/2018 - 5/13/2018	0	0	1,021.86
5/14/2018 - 5/20/2018	0	0	1,021.86
5/20/2018 - 5/27/2018	0	0	1,021.86
5/28/2018 - 6/3/2018	0	0	1,021.86
6/4/2018 - 6/10/2018	0	0	1,021.86
6/11/2018 - 6/17/2018	0	0	1,021.86

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Construction Debris

Date	Loads	Weekly Tonnage	Cumulative Totals
2/11/2018 - 2/17/2018	0	0	0
2/18/2018 - 2/24/2018	0	0	0
2/25/2018 - 3/3/2018	0	0	0
3/4/2018 - 3/11/2018	0	0	0
3/12/2018 - 3/18/2018	1	5.78	5.78
3/19/2018 - 3/25/2018	0	0	5.78
3/26/2018 - 4/1/2018	0	0	5.78
4/2/2018 - 4/8/2018	0	0	5.78
4/9/2018 - 4/15/2018	0	0	5.78
4/16/2018 - 4/22/2018	0	0	5.78
4/23/2018 - 4/29/2018	0	0	5.78
4/30/2018 - 5/6/2018	0	0	5.78
5/7/2018 - 5/13/2018	0	0	5.78
5/14/2018 - 5/20/2018	0	0	5.78
5/20/2018 - 5/27/2018	0	0	5.78
5/28/2018 - 6/3/2018	0	0	5.78
6/4/2018 - 6/10/2018	0	0	5.78
6/11/2018 - 6/17/2018	0	0	5.78

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Total 34,905.13

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
A18	A18-F-2.0	N	3/29/2018	mg/kg	25.9
A18	A18-SW-1.0	N	3/29/2018	mg/kg	42.9
A19	A19-F-2.0	N	3/29/2018	mg/kg	82.0
A19	A19-SW-1.0	N	3/29/2018	mg/kg	151
A20	A20A-F-3.0	N	4/6/2018	mg/kg	284
A20	A20-F1-2.0	FD	3/29/2018	mg/kg	**794**
A20	A20-F-2.0	N	3/29/2018	mg/kg	**635**
A20	A20-SW-1.0	N	3/29/2018	mg/kg	81.0
A21	A21-F-2.0	N	3/29/2018	mg/kg	92.0
A21	A21-SW-1.0	N	5/15/2018	mg/kg	15.9
AA10	AA10-F-2.0	N	5/3/2018	mg/kg	142
AA11	AA11-F-2.0	N	5/3/2018	mg/kg	195
AA12	AA12-F1-2.0	FD	5/3/2018	mg/kg	45.7
AA12	AA12-F-2.0	N	5/3/2018	mg/kg	40.4
AA13	AA13-F-2.0	N	5/3/2018	mg/kg	74.4
AA14	AA14-F-2.0	N	5/3/2018	mg/kg	219
AA15	AA15-F-1.0	N	4/19/2018	mg/kg	264
AA16	AA16-F-1.0	N	4/18/2018	mg/kg	32.2
AA17	AA17-F-3.0	N	4/18/2018	mg/kg	74.0
AA18	AA18-F-4.0	N	4/18/2018	mg/kg	103
AA19	AA19-F-4.0	N	4/18/2018	mg/kg	**699**
AA19	AA19-F-5.0	N	5/2/2018	mg/kg	66.8
AA20	AA20-F-4.0	N	4/13/2018	mg/kg	353
AA21	AA21-F-4.0	N	4/13/2018	mg/kg	177
AA22	AA22-F-4.0	N	4/13/2018	mg/kg	78.9
AA22	AA22-SW-2.5	N	4/19/2018	mg/kg	335
AA4	AA4-F-2.0	N	6/5/2018	mg/kg	18.9
AA4	AA4-SW-1.0	N	6/5/2018	mg/kg	19.1
AA5	AA5-F-2.0	N	6/5/2018	mg/kg	12.4
AA5	AA5-SW-1.0	N	6/5/2018	mg/kg	162
AA6	AA6-F-2.0	N	5/15/2018	mg/kg	15.4
AA7	AA7-F-2.0	N	5/11/2018	mg/kg	8.49
AA7	AA7-F-2.0	N	5/15/2018	mg/kg	15.6
AA7	AA7-SW-1.0	N	6/5/2018	mg/kg	83.7
AA7	AA7-SW-1.0-E	N	5/21/2018	mg/kg	105
AA7	AA7-SW-1.0-W	N	5/21/2018	mg/kg	**528**
AA8	AA8-F1-2.0	FD	5/11/2018	mg/kg	7.89

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
AA8	AA8-F-2.0	N	5/11/2018	mg/kg	8.48
AA9	AA9-F-2.0	N	4/11/2018	mg/kg	148
B18	B18-F-2.0	N	3/29/2018	mg/kg	30.9
B18	B18-SW-1.0	N	3/29/2018	mg/kg	16.6
B19	B19-F-2.0	N	3/29/2018	mg/kg	40.5
B20	B20A-F-3.0	N	4/6/2018	mg/kg	**799**
B20	B20B-F-4.0	N	4/13/2018	mg/kg	**761**
B20	B20C-F-6.0	N	4/26/2018	mg/kg	32.4
B20	B20-F-2.0	N	3/29/2018	mg/kg	**491**
B21	B21-F-2.0	N	3/29/2018	mg/kg	16.6
B21	B21-SW-1.0	N	3/29/2018	mg/kg	16.1
B22	B22-F-2.0	N	3/29/2018	mg/kg	31.6
B22	B22-SW-1.0-N	N	3/29/2018	mg/kg	17.3
B22	B22-SW-1.0-S	N	3/29/2018	mg/kg	33.0
BB10	BB10-F-2.0	N	5/3/2018	mg/kg	295
BB10	BB10-SW-1.0	N	5/21/2018	mg/kg	291
BB11	BB11-F1-2.0	FD	5/3/2018	mg/kg	58.0
BB11	BB11-F-2.0	N	5/3/2018	mg/kg	58.2
BB11	BB11-SW-1.0	N	5/21/2018	mg/kg	286
BB12	BB12-F-2.0	N	5/3/2018	mg/kg	85.6
BB12	BB12-SW-1.0	N	5/21/2018	mg/kg	379
BB13	BB13-F-2.0	N	5/3/2018	mg/kg	48.3
BB13	BB13-SW-1.0	N	5/21/2018	mg/kg	8.68
BB14	BB14-F-2.0	N	5/3/2018	mg/kg	148
BB14	BB14-SW-1.0	N	5/21/2018	mg/kg	241
BB15	BB15-F-1.0	N	4/19/2018	mg/kg	19.0
BB16	BB16-F-1.0	N	4/18/2018	mg/kg	83.5
BB16	BB16-F1-1.0	FD	4/18/2018	mg/kg	79.4
BB17	BB17-F-3.0	N	4/18/2018	mg/kg	37.7
BB18	BB18-F-4.0	N	4/18/2018	mg/kg	202
BB19	BB19-F-4.0	N	4/18/2018	mg/kg	**496**
BB19	BB19-F-5.0	N	5/2/2018	mg/kg	146
BB20	BB20-F-4.0	N	4/13/2018	mg/kg	397
BB21	BB21-F1-4.0	FD	4/13/2018	mg/kg	129
BB21	BB21-F-4.0	N	4/13/2018	mg/kg	149
BB22	BB22-F-4.0	N	4/13/2018	mg/kg	156
BB22	BB22-SW-2.0	N	4/19/2018	mg/kg	118

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
BB6	BB6-F-2.0	N	5/15/2018	mg/kg	15.7
BB6	BB6-SW-1.0	N	5/21/2018	mg/kg	24.1
BB7	BB7-F1-2.0	FD	5/11/2018	mg/kg	53.7
BB7	BB7-F-2.0	N	5/11/2018	mg/kg	68.7
BB7	BB7-SW-1.0	N	5/21/2018	mg/kg	315.0
BB8	BB8-F-2.0	N	5/11/2018	mg/kg	84.4
BB9	BB9-F-2.0	N	5/11/2018	mg/kg	142
C18	C18-F-2.0	N	3/29/2018	mg/kg	118
C18	C18-SW-1.0	N	3/29/2018	mg/kg	88.1
C19	C19-F-2.0	N	3/29/2018	mg/kg	38.3
C20	C20-F-2.0	N	3/29/2018	mg/kg	98.6
C21	C21-F1-2.0	FD	3/29/2018	mg/kg	82.6
C21	C21-F-2.0	N	3/29/2018	mg/kg	59.6
C21	C21-SW-1.0	N	3/29/2018	mg/kg	15.6
C22	C22-F-2.0	N	3/29/2018	mg/kg	118
CC14	CC14-F-1.0	N	6/5/2018	mg/kg	65.7
CC14	CC14-SW-0.5	N	5/21/2018	mg/kg	335
CC15	CC15A-F-2.0	N	6/11/2018	mg/kg	42.3
CC15	CC15-F-1.0	N	4/19/2018	mg/kg	8.79
CC15	CC15-F-1.0	N	6/4/2018	mg/kg	**11500**
CC15	CC15-F1-1.0	FD	4/19/2018	mg/kg	9.00
CC16	CC16A-F-4.0	N	6/11/2018	mg/kg	17.9
CC16	CC16-F-3.0	N	4/18/2018	mg/kg	135
CC16	CC16-F-3.0	N	6/4/2018	mg/kg	**6910**
CC16	CC16-SW-1.5	N	6/4/2018	mg/kg	198
CC17	CC17-F1-3.0	FD	4/18/2018	mg/kg	70.0
CC17	CC17-F-3.0	N	4/18/2018	mg/kg	62.1
CC17	CC17-SW-0.5-E	N	6/4/2018	mg/kg	267
CC17	CC17-SW-0.5-W	N	6/4/2018	mg/kg	21.9
CC17	CC17-SW-1.0-E	N	5/21/2018	mg/kg	**1180**
CC17	CC17-SW-1.0-W	N	5/21/2018	mg/kg	**452**
CC18	CC18-F-2.0	N	4/18/2018	mg/kg	296
CC19	CC19-F-4.0	N	4/18/2018	mg/kg	314
CC20	CC20-F-4.0	N	4/13/2018	mg/kg	203
CC21	CC21-F-4.0	N	4/13/2018	mg/kg	151
CC22	CC22-F-4.0	N	4/13/2018	mg/kg	220
CC22	CC22-SW-2.0	N	4/19/2018	mg/kg	40.2

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				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
CC7	CC7-F-2.0	N	5/11/2018	mg/kg	147
CC7	CC7-SW-1.0	N	5/21/2018	mg/kg	277
CC8	CC8A-F-3.0	N	6/5/2018	mg/kg	21.2
CC8	CC8-F-2.0	N	5/11/2018	mg/kg	**2980**
CC8	CC8-SW-1.0	N	5/21/2018	mg/kg	**507**
CC8	CC8-SW-1.5	N	6/5/2018	mg/kg	13.6
CC9	CC9-F-2.0	N	5/11/2018	mg/kg	43.8
CC9	CC9-SW-1.0	N	5/21/2018	mg/kg	196
D18	D18-F-2.0	N	3/29/2018	mg/kg	50.7
D18	D18-SW-1.0-E	N	3/29/2018	mg/kg	37.4
D18	D18-SW-1.0-S	N	3/29/2018	mg/kg	62.9
D19	D19-F-2.0	N	3/29/2018	mg/kg	97.9
D20	D20-F-2.0	N	3/29/2018	mg/kg	240
D20	D20-SW-1.0	N	3/29/2018	mg/kg	64.9
D21	D21-F-2.0	N	3/29/2018	mg/kg	15.3
DD15	DD15-F-1.0	N	4/19/2018	mg/kg	286
DD15	DD15-F-1.0	N	6/4/2018	mg/kg	173
DD15	DD15-SW-0.5	N	5/21/2018	mg/kg	247
DD15	DD15-SW-0.5	N	6/1/2018	mg/kg	57.6
DD16	DD16-F-1.0	N	4/27/2018	mg/kg	220
DD16	DD16-F-1.0	N	6/4/2018	mg/kg	68.8
DD16	DD16-SW-0.5	N	6/1/2018	mg/kg	43.0
DD16	DD16-SW-1.0	N	5/21/2018	mg/kg	**4740**
DD18	DD18-F1-2.0	FD	4/18/2018	mg/kg	59.0
DD18	DD18-F-2.0	N	4/18/2018	mg/kg	95.4
DD18	DD18-SW-0.5	N	5/31/2018	mg/kg	68.6
DD19	DD19-F1-4.0	FD	4/18/2018	mg/kg	53.5
DD19	DD19-F-4.0	N	4/18/2018	mg/kg	49.4
DD20	DD20-F-4.0	N	4/13/2018	mg/kg	278
DD21	DD21-F1-4.0	FD	4/13/2018	mg/kg	329
DD21	DD21-F-4.0	N	4/13/2018	mg/kg	**1530**
DD21	DD21-F-5.0	N	5/2/2018	mg/kg	22.2
DD22	DD22-F-4.0	N	4/13/2018	mg/kg	52.7
DD22	DD22-SW-2.0	N	4/19/2018	mg/kg	44.8
E19	E19-F-2.0	N	3/29/2018	mg/kg	164
E19	E19-SW-1.0	N	3/29/2018	mg/kg	6.3
E20	E20-F-2.0	N	3/29/2018	mg/kg	61.5

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Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
E20	E20-SW-1.0	N	3/29/2018	mg/kg	27.2
EE18	EE18-F-1.0	N	4/13/2018	mg/kg	164
EE18	EE18-SW-0.5	N	5/31/2018	mg/kg	78.8
EE19	EE19-F-1.0	N	4/13/2018	mg/kg	147
EE20	EE20-F-4.0	N	4/13/2018	mg/kg	318
EE21	EE21-F-4.0	N	4/13/2018	mg/kg	**498**
EE21	EE21-F-5.0	N	5/2/2018	mg/kg	61.4
EE21	EE21-SW-2.0	N	4/19/2018	mg/kg	115
FF18	FF18-F-1.0	N	4/13/2018	mg/kg	57.6
FF18	FF18-SW-0.5	N	5/31/2018	mg/kg	68.8
FF19	FF19-F-1.0	N	4/13/2018	mg/kg	96.4
FF20	FF20-F-4.0	N	4/13/2018	mg/kg	39.8
FF21	FF21-F1-4.0	FD	4/13/2018	mg/kg	19.4
FF21	FF21-F-4.0	N	4/13/2018	mg/kg	16.8
FF21	FF21-SW-2.0	N	4/19/2018	mg/kg	**4160**
FF22	FF22-F-4.0	N	5/2/2018	mg/kg	10.6
FF22	FF22-SW-2.5	N	5/2/2018	mg/kg	42.4
FF22	FF22-SW-5.5	N	5/2/2018	mg/kg	9.55
GG18	GG18-F-1.0	N	4/13/2018	mg/kg	232
GG18	GG18-SW-0.5	N	4/19/2018	mg/kg	169
GG18	GG18-SW-0.5-E	N	5/31/2018	mg/kg	111
GG19	GG19-F-1.0	N	4/13/2018	mg/kg	223
GG19	GG19-SW-0.5	N	4/19/2018	mg/kg	241
GG20	GG20-F-4.0	N	4/13/2018	mg/kg	9.10
GG20	GG20-SW-2.0	N	4/19/2018	mg/kg	19.4
GG21	GG21-F-4.0	N	4/13/2018	mg/kg	7.78
GG21	GG21-SW-2.0	N	4/19/2018	mg/kg	37.1
I15	I15-F-2.0	N	6/5/2018	mg/kg	15.5
I15	I15-SW-1.0	N	3/29/2018	mg/kg	99.6
J10	J10-F-2.0	N	6/5/2018	mg/kg	43.3
J10	J10-SW-1.0	N	3/13/2018	mg/kg	127
J11	J11-F-2.0	N	3/7/2018	mg/kg	9.87
J11	J11-SW-1.0	N	3/13/2018	mg/kg	169
J12	J12-F-2.0	N	3/7/2018	mg/kg	9.99
J12	J12-SW-1.0	N	3/13/2018	mg/kg	27
J14	J14-F-2.0	N	3/7/2018	mg/kg	37.8
J14	J14-SW-1.0	N	3/13/2018	mg/kg	309

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
J15	J15-F-2.0	N	3/7/2018	mg/kg	15.8
J16	J16-F-2.0	N	3/29/2018	mg/kg	43.9
J16	J16-SW-1.0	N	3/29/2018	mg/kg	61.2
J17	J17-F-2.0	N	3/29/2018	mg/kg	44.5
J17	J17-SW-1.0	N	3/29/2018	mg/kg	35.2
J18	J18-F-2.0	N	3/23/2018	mg/kg	84.9
J18	J18-SW-1.0	N	3/29/2018	mg/kg	150
J19	J19A-F-4.0	N	3/29/2018	mg/kg	56.2
J19	J19-F-2.0	N	3/23/2018	mg/kg	**5,490**
J19	J19-SW-2.0	N	3/29/2018	mg/kg	132
J7	J7-F-1.0	N	3/13/2018	mg/kg	254
J7	J7-SW-0.5	N	3/13/2018	mg/kg	33.9
J8	J8A-F-2.0	N	3/23/2018	mg/kg	27.3
J8	J8-F-1.0	N	3/13/2018	mg/kg	141
J8	J8-F1-1.0	FD	3/13/2018	mg/kg	**6,600**
J8	J8-SW-0.5	N	3/13/2018	mg/kg	118
J9	J9-F-2.0	N	3/7/2018	mg/kg	145
J9	J9-SW-0.5	N	3/13/2018	mg/kg	262
K10	K10-F-2.0	N	3/7/2018	mg/kg	56.5
K10	K10-SW-0.5	N	3/13/2018	mg/kg	259
K11	K11-F-2.0	N	3/7/2018	mg/kg	19.2
K12	K12-F-2.0	N	3/7/2018	mg/kg	56.9
K12	K12-SW-1.0	N	3/13/2018	mg/kg	21.7
K13	K13-F-2.0	N	3/7/2018	mg/kg	57.6
K13	K13-SW-1.0	N	3/13/2018	mg/kg	243
K14	K14-F-2.0	N	3/7/2018	mg/kg	29.2
K15	K15-F-2.0	N	3/7/2018	mg/kg	72.9
K16	K16-F-2.0	N	3/29/2018	mg/kg	79.1
K17	K17-F-2.0	N	3/29/2018	mg/kg	30.0
K18	K18-F-2.0	N	3/23/2018	mg/kg	110
K19	K19A-F-4.0	N	3/29/2018	mg/kg	49.7
K19	K19-F-2.0	N	3/23/2018	mg/kg	**1,150**
K20	K20-F-2.0	N	3/23/2018	mg/kg	70.1
K20	K20-SW-2.0	N	3/29/2018	mg/kg	137
K6	K6-F-1.0	N	3/13/2018	mg/kg	138
K6	K6-SW-0.5	N	3/13/2018	mg/kg	45.1
K7	K7-F-1.0	N	3/13/2018	mg/kg	155

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
K8	K8A-F-2.0/3.0	N	3/23/2018	mg/kg	57.0
K8	K8-F-1.0	N	3/7/2018	mg/kg	**422**
K8	K8-F1-1.0	FD	3/7/2018	mg/kg	**603**
K9	K9-F-1.0	N	3/7/2018	mg/kg	159
L10	L10-F-2.0	N	3/7/2018	mg/kg	108
L11	L11-F-2.0	N	3/7/2018	mg/kg	42.5
L12	L12-F-2.0	N	3/7/2018	mg/kg	63.4
L13	L13-F-2.0	N	3/7/2018	mg/kg	47.4
L14	L14-F-2.0	N	3/7/2018	mg/kg	48.2
L15	L15-F-2.0	N	3/7/2018	mg/kg	109
L16	L16-F1-2.0	FD	3/29/2018	mg/kg	56.4
L16	L16-F-2.0	N	3/29/2018	mg/kg	77.5
L17	L17-F-2.0	N	3/29/2018	mg/kg	16.6
L18	L18-F-2.0	N	3/23/2018	mg/kg	133
L19	L19-F1-2.0	FD	3/23/2018	mg/kg	175
L19	L19-F-2.0	N	3/23/2018	mg/kg	163
L20	L20-F-2.0	N	3/23/2018	mg/kg	21.5
L20	L20-SW-2.0	N	3/29/2018	mg/kg	298
L5	L5-F-1.0	N	3/13/2018	mg/kg	84.7
L5	L5-SW-0.5	N	3/13/2018	mg/kg	31.3
L6	L6-F-1.0	N	3/13/2018	mg/kg	52.5
L6	L6-F1-1.0	FD	3/13/2018	mg/kg	70.2
L6	L6-SW-0.5	N	3/13/2018	mg/kg	31.2
L7	L7-F-1.0	N	3/7/2018	mg/kg	61.8
L8	L8-F-1.0	N	3/7/2018	mg/kg	320
L9	L9-F-1.0	N	3/7/2018	mg/kg	100
L9	L9-F1-1.0	FD	3/7/2018	mg/kg	81.3
M10	M10-F-2.0	N	3/7/2018	mg/kg	72.1
M11	M11-F-2.0	N	3/7/2018	mg/kg	148
M12	M12-F-2.0	N	3/7/2018	mg/kg	80.1
M13	M13-F-2.0	N	3/7/2018	mg/kg	140
M14	M14-F-2.0	N	3/7/2018	mg/kg	55.7
M15	M15-F-2.0	N	3/7/2018	mg/kg	109
M16	M16-F-2.0	N	3/29/2018	mg/kg	39.7
M17	M17-F-2.0	N	3/29/2018	mg/kg	24.5
M18	M18-F1-2.0	FD	3/23/2018	mg/kg	180
M18	M18-F-2.0	N	3/23/2018	mg/kg	186

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
M19	M19-F-2.0	N	3/23/2018	mg/kg	33.6
M20	M20-F1-2.0	FD	3/23/2018	mg/kg	25.4
M20	M20-F-2.0	N	3/23/2018	mg/kg	26.8
M20	M20-SW-2.0	N	3/29/2018	mg/kg	15.0
M21	M21-F-2.0	N	3/23/2018	mg/kg	15.4
M21	M21-SW-2.0	N	3/29/2018	mg/kg	12.0
M5	M5-F-1.0	N	3/7/2018	mg/kg	130
M6	M6-F-1.0	N	3/7/2018	mg/kg	162
M6	M6-SW-0.5	N	3/13/2018	mg/kg	27.9
M7	M7A-F-2.0/3.0	N	3/23/2018	mg/kg	60.6
M7	M7-F-1.0	N	3/7/2018	mg/kg	**402**
M8	M8-F-1.0	N	3/7/2018	mg/kg	209
M8	M8-F1-1.0	FD	3/7/2018	mg/kg	220
M9	M9-F-1.0	N	3/7/2018	mg/kg	151
N10	N10-F-2.0	N	3/7/2018	mg/kg	183
N11	N11-F-2.0	N	3/7/2018	mg/kg	122
N12	N12-F-2.0	N	3/7/2018	mg/kg	222
N13	N13-F-2.0	N	3/7/2018	mg/kg	147
N14	N14-F-2.0	N	3/7/2018	mg/kg	120
N15	N15-F-2.0	N	3/7/2018	mg/kg	69.3
N16	N16-F-2.0	N	3/29/2018	mg/kg	64.1
N17	N17-F1-2.0	FD	3/29/2018	mg/kg	39.3
N17	N17-F-2.0	N	3/29/2018	mg/kg	31.4
N18	N18-F-2.0	N	3/23/2018	mg/kg	240
N19	N19-F-2.0	N	3/23/2018	mg/kg	66.0
N1	N1-F-2.0	N	4/13/2018	mg/kg	30.6
N20	N20-F-2.0	N	3/23/2018	mg/kg	14.3
N21	N21-F1-2.0	FD	3/23/2018	mg/kg	13.9
N21	N21-F-2.0	N	3/23/2018	mg/kg	14.8
N21	N21-SW-1.0	N	3/29/2018	mg/kg	12.4
N6	N6-F-1.0	N	3/7/2018	mg/kg	384
N6	N6-SW-0.5	N	3/13/2018	mg/kg	23.0
N6	N6-SW1-0.5	FD	3/13/2018	mg/kg	46.5
N7	N7A-F-2.0	N	3/23/2018	mg/kg	144
N7	N7-F-1.0	N	3/7/2018	mg/kg	**551**
O7*	N7-SW-0.5	N	3/13/2018	mg/kg	30.8
N8	N8A-F1-2.0	FD	3/23/2018	mg/kg	31.6

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
N8	N8A-F-2.0	N	3/23/2018	mg/kg	23.0
N8	N8-F-1.0	N	3/7/2018	mg/kg	300
N8	N8-F1-1.0	FD	3/7/2018	mg/kg	**622**
N9	N9-F-1.0	N	3/7/2018	mg/kg	122
O10	O10-F1-2.0	FD	3/29/2018	mg/kg	59.8
O10	O10-F-2.0	N	3/29/2018	mg/kg	59.9
O11	O11-F1-2.0	FD	3/7/2018	mg/kg	184
O11	O11-F-2.0	N	3/7/2018	mg/kg	208
O12	O12-F-2.0	N	3/7/2018	mg/kg	270
O13	O13-F-2.0	N	3/7/2018	mg/kg	148
O14	O14-F-2.0	N	3/7/2018	mg/kg	131
O15	O15-F-2.0	N	3/7/2018	mg/kg	189
O16	O16-F-2.0	N	3/29/2018	mg/kg	17.1
O17	O17-F-2.0	N	3/29/2018	mg/kg	33.5
O18	O18-F-2.0	N	3/23/2018	mg/kg	135
O19	O19-F-2.0	N	3/23/2018	mg/kg	99.5
O1	O1-F-2.0	N	4/13/2018	mg/kg	59.0
O1	O1-SW-0.66-E	N	5/3/2018	mg/kg	298
O1	O1-SW-1.0	N	4/13/2018	mg/kg	151.0
O20	O20-F-2.0	N	3/23/2018	mg/kg	16.0
O21	O21-F-2.0	N	3/23/2018	mg/kg	17.7
O21	O21-SW-1.0	N	3/29/2018	mg/kg	6.26
O2	O2-F-2.0	N	4/27/2018	mg/kg	34.0
O2	O2-SW-1.0	N	4/13/2018	mg/kg	304
O7	O7-F-1.0	N	4/3/2018	mg/kg	81.2
O8	O8-F-1.0	N	4/3/2018	mg/kg	120
O8	O8-SW-0.5	N	4/3/2018	mg/kg	30.2
O9	O9-F-2.0	N	4/3/2018	mg/kg	97.2
P10	P10-F-2.0	N	3/29/2018	mg/kg	20.0
P11	P11-F-2.0	N	3/7/2018	mg/kg	102
P12	P12-F-2.0	N	3/7/2018	mg/kg	292
P13	P13-F-2.0	N	3/7/2018	mg/kg	146
P14	P14-F-2.0	N	3/7/2018	mg/kg	247
P15	P15-F-2.0	N	3/7/2018	mg/kg	119
P16	P16-F-4.0	N	3/29/2018	mg/kg	34.7
P17	P17-F-4.0	N	3/29/2018	mg/kg	102
P18	P18-F-4.0	N	3/23/2018	mg/kg	60.9

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
P19	P19-F-4.0	N	3/23/2018	mg/kg	40.0
P1	P1-F-2.0	N	4/13/2018	mg/kg	93.7
P1	P1-SW-0.66	N	5/3/2018	mg/kg	**430**
P20	P20-F-4.0	N	3/23/2018	mg/kg	21.2
P21	P21-F-2.0	N	3/23/2018	mg/kg	10.9
P22	P22-F-2.0	N	3/23/2018	mg/kg	13
P22	P22-SW-2.0	N	3/29/2018	mg/kg	5.75
P2	P2-F-2.0	N	4/13/2018	mg/kg	96.2
P3	P3-F-2.0	N	4/3/2018	mg/kg	139
P3	P3-SW-1.0	N	4/3/2018	mg/kg	170
P4	P4-F-2.0	N	4/3/2018	mg/kg	61.1
P4	P4-SW-1.0	N	4/3/2018	mg/kg	69.5
P5	P5-F-2.0	N	4/3/2018	mg/kg	48.8
P5	P5-SW-1.0	N	4/3/2018	mg/kg	167
P6	P6-F-2.0	N	4/3/2018	mg/kg	26.9
P6	P6-SW-1.0	N	4/3/2018	mg/kg	28.3
P8	P8-F-2.0	N	4/3/2018	mg/kg	230
P8	P8-SW-1.0	N	4/3/2018	mg/kg	61.1
P9	P9-F-2.0	N	4/3/2018	mg/kg	124
Q10	Q10-F1-2.0	FD	3/29/2018	mg/kg	51.7
Q10	Q10-F-2.0	N	3/29/2018	mg/kg	51.7
Q11	Q11-F-2.0	N	3/7/2018	mg/kg	60.1
Q12	Q12-F1-2.0	FD	3/7/2018	mg/kg	67.6
Q12	Q12-F-2.0	N	3/7/2018	mg/kg	87.7
Q13	Q13-F-2.0	N	3/7/2018	mg/kg	193
Q14	Q14-F-2.0	N	3/7/2018	mg/kg	57.1
Q15	Q15A-F-3.0	N	3/29/2018	mg/kg	35.3
Q15	Q15-F-2.0	N	3/7/2018	mg/kg	**404**
Q16	Q16-F1-4.0	FD	3/29/2018	mg/kg	40.9
Q16	Q16-F-4.0	N	3/29/2018	mg/kg	36.9
Q17	Q17-F1-4.0	FD	3/29/2018	mg/kg	23.2
Q17	Q17-F-4.0	N	3/29/2018	mg/kg	87.8
Q18	Q18-F-4.0	N	3/23/2018	mg/kg	31.2
Q19	Q19-F-4.0	N	3/23/2018	mg/kg	45.1
Q1	Q1-F-2.0	N	4/13/2018	mg/kg	35.0
Q20	Q20-F-4.0	N	3/23/2018	mg/kg	45.0
Q21	Q21-F-4.0	N	3/23/2018	mg/kg	11.1

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
			Action Level	(mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
Q22	Q22-F-4.0	N	3/23/2018	mg/kg	13.4
Q22	Q22-SW-2.0	N	3/29/2018	mg/kg	11.0
Q2	Q2-F-2.0	N	4/13/2018	mg/kg	141
Q3	Q3-F-2.0	N	4/3/2018	mg/kg	74.5
Q4	Q4-F-2.0	N	4/3/2018	mg/kg	62.9
Q5	Q5-F-2.0	N	4/3/2018	mg/kg	76.0
Q6	Q6-F-2.0	N	4/3/2018	mg/kg	164
Q7	Q7-F-2.0	N	4/3/2018	mg/kg	95.1
Q7	Q7-SW-1.0	N	4/3/2018	mg/kg	116
Q8	Q8-F-2.0	N	4/3/2018	mg/kg	137
Q6*	Q8-SW-1.0	N	4/3/2018	mg/kg	155
Q9	Q9-F-2.0	N	4/3/2018	mg/kg	31.3
R10	R10-F-2.0	N	4/3/2018	mg/kg	37.4
R11	R11-F-2.0	N	3/7/2018	mg/kg	59.0
R12	R12-F-2.0	N	3/7/2018	mg/kg	214
R13	R13-F-2.0	N	3/7/2018	mg/kg	190
R14	R14-F-2.0	N	3/7/2018	mg/kg	90.6
R15	R15-F-2.0	N	3/7/2018	mg/kg	46.4
R16	R16-F-4.0	N	3/29/2018	mg/kg	34.9
R17	R17-F-4.0	N	3/29/2018	mg/kg	80.3
R18	R18-F-4.0	N	3/23/2018	mg/kg	75.6
R19	R19-F-4.0	N	3/23/2018	mg/kg	25.4
R1	R1-F-2.0	N	4/13/2018	mg/kg	117
R1	R1-SW-1.0	N	6/15/2018	mg/kg	324
R20	R20-F-4.0	N	3/23/2018	mg/kg	12.6
R21	R21-F-4.0	N	3/23/2018	mg/kg	21.9
R22	R22-F-4.0	N	3/23/2018	mg/kg	78.8
R22	R22-SW-2.0	N	3/29/2018	mg/kg	18.3
R2	R2-F1-2.0	FD	4/13/2018	mg/kg	69.5
R2	R2-F-2.0	N	4/13/2018	mg/kg	88.4
R3	R3-F-2.0	N	4/13/2018	mg/kg	45.0
R4	R4-F-2.0	N	4/3/2018	mg/kg	28.1
R5	R5-F-2.0	N	4/3/2018	mg/kg	12.9
R6	R6-F-2.0	N	4/3/2018	mg/kg	41.3
R7	R7-F-2.0	N	4/3/2018	mg/kg	37.8
R8	R8-F-2.0	N	4/3/2018	mg/kg	117
R9	R9-F1-2.0	FD	4/3/2018	mg/kg	46.0

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
			Action Level	(mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
R9	R9-F-2.0	N	4/3/2018	mg/kg	44.5
S10	S10-F-2.0	N	4/3/2018	mg/kg	172
S11	S11-F1-2.0	FD	3/7/2018	mg/kg	244
S11	S11-F-2.0	N	3/7/2018	mg/kg	168
S12	S12-F-2.0	N	3/7/2018	mg/kg	34.9
S13	S13-F-2.0	N	3/7/2018	mg/kg	33.9
S14	S14-F-2.0	N	3/7/2018	mg/kg	87.9
S15	S15-F-2.0	N	3/7/2018	mg/kg	20.6
S16	S16-F-2.0	N	4/18/2018	mg/kg	112
S17	S17-F1-4.0	FD	4/27/2018	mg/kg	31.3
S17	S17-F-4.0	N	4/27/2018	mg/kg	30.4
S18	S18-F-4.0	N	4/27/2018	mg/kg	76.0
S19	S19-F-4.0	N	3/23/2018	mg/kg	64.7
S1	S1-F-2.0	N	4/13/2018	mg/kg	309
S1	S1-SW-1.0	N	6/8/2018	mg/kg	**577**
S20	S20-F-4.0	N	3/23/2018	mg/kg	85.1
S20	S20-SW-2.0	N	3/29/2018	mg/kg	254
S21	S21-F-4.0	N	3/23/2018	mg/kg	145
S21	S21-SW-2.0	N	3/29/2018	mg/kg	58.1
S22	S22-F-4.0	N	3/23/2018	mg/kg	134
S22	S22-SW-2.0	N	3/29/2018	mg/kg	365
S2	S2-F-2.0	N	4/13/2018	mg/kg	21.4
S3	S3-F-2.0	N	4/13/2018	mg/kg	37.2
S4	S4-F1-2.0	FD	4/3/2018	mg/kg	7.06
S4	S4-F-2.0	N	4/3/2018	mg/kg	7.04
S5	S5-F-2.0	N	4/3/2018	mg/kg	65.3
S6	S6-F-1.0	N	4/3/2018	mg/kg	262
S7	S7-F-2.0	N	4/3/2018	mg/kg	101
S8	S8-F1-2.0	FD	4/3/2018	mg/kg	91.6
S8	S8-F-2.0	N	4/3/2018	mg/kg	102
S9	S9-F-2.0	N	4/3/2018	mg/kg	63.9
BB13,BB14,CC13,CC14	Stockpile Area - 1	N	5/22/2018	mg/kg	28.8
BB11,BB12,CC11,CC12	Stockpile Area - 2	N	5/22/2018	mg/kg	137
BB10,CC10	Stockpile Area - 3	N	5/22/2018	mg/kg	273
BB6,BB7	Stockpile Area - 4	N	5/22/2018	mg/kg	175
AA6,AA7	Stockpile Area - 5	N	5/22/2018	mg/kg	262
AA2, AA3, BB2, BB3	Stockpile Area - 6	N	6/15/2018	mg/kg	160

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
T10	T10-F-2.0	N	4/3/2018	mg/kg	99.5
T11	T11-F-2.0	N	3/7/2018	mg/kg	209
T12	T12-F-2.0	N	3/7/2018	mg/kg	80.9
T13	T13-F-2.0	N	3/7/2018	mg/kg	51.5
T14	T14-F-2.0	N	3/7/2018	mg/kg	43.3
T15	T15-F-2.0	N	3/7/2018	mg/kg	267
T16	T16-F-2.0	N	4/18/2018	mg/kg	246
T17	T17-F-3.0	N	4/27/2018	mg/kg	70.0
T18	T18-F-4.0	N	4/27/2018	mg/kg	87.6
T19	T19-F-4.0	N	4/18/2018	mg/kg	29.7
T19	T19-SW-2.0	N	4/19/2018	mg/kg	73.4
T1	T1-F1-2.0	FD	6/7/2018	mg/kg	29.0
T1	T1-F-2.0	N	6/7/2018	mg/kg	51.0
T1	T1-SW-1.0	N	6/8/2018	mg/kg	**1050**
T2	T2-F-2.0	N	6/7/2018	mg/kg	14.8
T3	T3-F1-2.0	FD	6/7/2018	mg/kg	27.9
T3	T3-F-2.0	N	6/7/2018	mg/kg	24.7
T4	T4-F-2.0	N	4/13/2018	mg/kg	26.9
T5	T5-F-1.0	N	4/13/2018	mg/kg	125
T6	T6-F-1.0	N	4/3/2018	mg/kg	221
T6	T6-F1-1.0	FD	4/3/2018	mg/kg	222
T7	T7-F-2.0	N	4/3/2018	mg/kg	195
T8	T8-F-2.0	N	4/3/2018	mg/kg	55.8
T9	T9-F-2.0	N	4/3/2018	mg/kg	101
U10	U10-F-2.0	N	4/3/2018	mg/kg	156
U11	U11-F-2.0	N	4/3/2018	mg/kg	90.1
U12	U12-F-2.0	N	5/3/2018	mg/kg	70.6
U13	U13-F-2.0	N	5/3/2018	mg/kg	58.4
U14	U14-F-2.0	N	5/3/2018	mg/kg	23.9
U15	U15-F1-2.0	FD	4/19/2018	mg/kg	36.1
U15	U15-F-2.0	N	4/19/2018	mg/kg	39.9
U16	U16-F-2.0	N	4/18/2018	mg/kg	327
U17	U17-F-2.0	N	4/18/2018	mg/kg	310
U18	U18-F-2.0	N	4/18/2018	mg/kg	18.9
U19	U19-F-2.0	N	4/18/2018	mg/kg	46.2
U19	U19-SW-1.0	N	4/19/2018	mg/kg	284
U1	U1-F-3.0	N	6/7/2018	mg/kg	79.8

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
U1	U1-SW-1.5	N	6/8/2018	mg/kg	**1110**
U2	U2-F-2.0	N	6/7/2018	mg/kg	120
U3	U3-F-2.0	N	6/7/2018	mg/kg	198
U4	U4-F-2.0	N	6/7/2018	mg/kg	91.6
U5	U5-F-1.0	N	6/7/2018	mg/kg	237
U6	U6-F-1.0	N	4/13/2018	mg/kg	307
U7	U7-F-1.0	N	4/13/2018	mg/kg	246
U8	U8-F-2.0	N	4/3/2018	mg/kg	125
U9	U9-F-2.0	N	4/3/2018	mg/kg	135
V10	V10-F-2.0	N	4/3/2018	mg/kg	310
V11	V11-F1-2.0	FD	4/3/2018	mg/kg	122
V11	V11-F-2.0	N	4/3/2018	mg/kg	76.0
V12	V12-F-2.0	N	5/3/2018	mg/kg	81.9
V13	V13-F-2.0	N	5/3/2018	mg/kg	133
V14	V14-F-2.0	N	5/3/2018	mg/kg	115
V15	V15-F-4.0	N	4/19/2018	mg/kg	43.9
V16	V16-F-3.0	N	4/18/2018	mg/kg	75.3
V17	V17-F-3.0	N	4/18/2018	mg/kg	14.7
V18	V18-F-3.0	N	4/18/2018	mg/kg	35.7
V19	V19-F-4.0	N	4/18/2018	mg/kg	189
V19	V19-SW-2.0	N	4/19/2018	mg/kg	38.5
V1	V1-F-4.0	N	6/7/2018	mg/kg	66.3
V1	V1-SW-2.0	N	6/8/2018	mg/kg	**1200**
V2	V2-F-3.0	N	6/7/2018	mg/kg	29.8
V3	V3-F-2.0	N	6/7/2018	mg/kg	149
V4	V4-F-2.0	N	6/7/2018	mg/kg	76.6
V5	V5-F-1.0	N	6/7/2018	mg/kg	262
V6	V6-F-1.0	N	5/15/2018	mg/kg	154
V7	V7-F-2.0	N	5/15/2018	mg/kg	22.7
V8	V8-F-2.0	N	4/3/2018	mg/kg	156
V9	V9-F-2.0	N	4/3/2018	mg/kg	172
W10	W10-F-2.0	N	4/3/2018	mg/kg	83.7
W11	W11-F-2.0	N	4/3/2018	mg/kg	172
W12	W12-F-2.0	N	5/3/2018	mg/kg	116
W13	W13-F-2.0	N	5/3/2018	mg/kg	115
W14	W14-F-2.0	N	5/3/2018	mg/kg	163
W15	W15-F1-4.0	FD	4/19/2018	mg/kg	28.2

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
W15	W15-F-4.0	N	4/19/2018	mg/kg	16.9
W16	W16-F-3.0	N	4/18/2018	mg/kg	30.6
W17	W17-F-3.0	N	4/18/2018	mg/kg	63.2
W18	W18-F1-5.0	FD	5/2/2018	mg/kg	169
W18	W18-F-4.0	N	4/18/2018	mg/kg	**488**
W18	W18-F-5.0	N	5/2/2018	mg/kg	73.4
W19	W19-F-4.0	N	4/18/2018	mg/kg	241
W1	W1-F-4.0	N	6/8/2018	mg/kg	17.1
W1	W1-SW-2.0	N	6/8/2018	mg/kg	**953**
W20	W20-F-4.0	N	4/13/2018	mg/kg	334
W20	W20-SW-2.0	N	4/19/2018	mg/kg	357
W21	W21-F1-4.0	FD	4/13/2018	mg/kg	9.85
W21	W21-F-4.0	N	4/13/2018	mg/kg	11.8
W21	W21-SW-2.0	N	4/19/2018	mg/kg	244
W2	W2-F-4.0	N	6/7/2018	mg/kg	137
W3	W3-F-2.0	N	6/7/2018	mg/kg	66.1
W4	W4-F-2.0	N	6/7/2018	mg/kg	77.5
W5	W5-F-3.0	N	6/7/2018	mg/kg	68.8
W6	W6A-F-3.0	N	5/29/2018	mg/kg	230
W6	W6-F-2.0	N	5/15/2018	mg/kg	**471**
W7	W7-F-2.0	N	5/15/2018	mg/kg	86.2
W8	W8-F-2.0	N	5/11/2018	mg/kg	337
W9	W9-F-2.0	N	4/3/2018	mg/kg	143
X10	X10-F-2.0	N	5/3/2018	mg/kg	104
X11	X11-F-2.0	N	5/3/2018	mg/kg	125
X12	X12-F-2.0	N	5/3/2018	mg/kg	60.9
X13	X13-F-2.0	N	5/3/2018	mg/kg	234
X14	X14-F-2.0	N	5/3/2018	mg/kg	183
X15	X15-F-4.0	N	4/19/2018	mg/kg	32.0
X16	X16-F-3.0	N	4/18/2018	mg/kg	9.67
X17	X17-F-3.0	N	4/18/2018	mg/kg	127
X18	X18-F-4.0	N	4/18/2018	mg/kg	148
X19	X19-F-4.0	N	4/18/2018	mg/kg	197
X1	X1-F-3.0	N	6/11/2018	mg/kg	28.0
X1	X1-SW-1.5-E	N	6/11/2018	mg/kg	**647**
X1	X1-SW-1.5-S	N	6/11/2018	mg/kg	29.8
X20	X20-F-4.0	N	4/13/2018	mg/kg	285

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
X21	X21-F-4.0	N	4/13/2018	mg/kg	**445**
X21	X21-F-6.0	N	5/2/2018	mg/kg	35.2
X21	X21-F-6.0	N	5/21/2018	mg/kg	61.9
X21	X21-SW-2.0	N	4/19/2018	mg/kg	355
X21	X21-SW-2.5	N	5/2/2018	mg/kg	**2490**
X21	X21-SW-2.5	N	5/21/2018	mg/kg	21.8
X21	X21-SW-5.5	N	5/2/2018	mg/kg	83.8
X21	X21-SW-5.5	N	5/21/2018	mg/kg	12.1
X22	X22-F1-6.0	FD	5/21/2018	mg/kg	52.9
X22	X22-F-6.0	N	5/21/2018	mg/kg	80.3
X22	X22-SW-2.5	N	5/21/2018	mg/kg	19.5
X22	X22-SW-5.5	N	5/21/2018	mg/kg	20.3
X2	X2-F-2.0	N	6/11/2018	mg/kg	18.7
X3	X3-F-2.0	N	6/7/2018	mg/kg	11.3
X4	X4-F-2.0	N	6/7/2018	mg/kg	9.86
X5	X5-F-3.0	N	6/7/2018	mg/kg	23.2
X6	X6-F-2.0	N	5/15/2018	mg/kg	360
X7	X7-F-2.0	N	5/15/2018	mg/kg	312
X8	X8A-F-3.0	N	5/22/2018	mg/kg	25.8
X8	X8-F-2.0	N	5/11/2018	mg/kg	**610**
X9	X9-F-2.0	N	5/11/2018	mg/kg	121
Y10	Y10-F-2.0	N	5/3/2018	mg/kg	49.0
Y11	Y11-F-2.0	N	5/3/2018	mg/kg	58.0
Y12	Y12-F-2.0	N	5/3/2018	mg/kg	92.4
Y13	Y13-F-2.0	N	5/3/2018	mg/kg	227
Y14	Y14-F-2.0	N	5/3/2018	mg/kg	87.2
Y15	Y15-F-1.0	N	4/19/2018	mg/kg	87.0
Y16	Y16-F-3.0	N	4/18/2018	mg/kg	43.6
Y17	Y17-F-3.0	N	4/18/2018	mg/kg	117
Y18	Y18-F-4.0	N	4/18/2018	mg/kg	189

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
Y19	Y19-F-4.0	N	4/18/2018	mg/kg	366
Y1	Y1-F-2.0	N	6/11/2018	mg/kg	14.9
Y20	Y20-F-4.0	N	4/13/2018	mg/kg	**1560**
Y20	Y20-F-5.0	N	5/2/2018	mg/kg	277
Y21	Y21-F-4.0	N	4/13/2018	mg/kg	188
Y21	Y21-SW-2.0	N	4/19/2018	mg/kg	18.1
Y22	Y22-F-4.0	N	4/13/2018	mg/kg	20.7
Y2	Y2-F-2.0	N	6/11/2018	mg/kg	16.0
Y2	Y2-SW-1.0	N	6/11/2018	mg/kg	11.4
Y3	Y3-F1-2.0	FD	6/11/2018	mg/kg	10.0
Y3	Y3-F-2.0	N	6/11/2018	mg/kg	12.9
Y3	Y3-SW-1.0	N	6/11/2018	mg/kg	18.5
Y4	Y4-F-2.0	N	6/5/2018	mg/kg	17.1
Y5	Y5-F-2.0	N	6/5/2018	mg/kg	19.0
Y6	Y6-F1-2.0	FD	5/15/2018	mg/kg	20.7
Y6	Y6-F-2.0	N	5/15/2018	mg/kg	20.0
Y7	Y7-F-2.0	N	5/15/2018	mg/kg	291
Y8	Y8-F-2.0	N	5/11/2018	mg/kg	55.4
Y9	Y9-F-2.0	N	5/11/2018	mg/kg	85.7
Z10	Z10-F1-2.0	N	5/3/2018	mg/kg	91.8
Z10	Z10-F-2.0	N	5/3/2018	mg/kg	103
Z11	Z11-F-2.0	N	5/3/2018	mg/kg	136
Z12	Z12-F-2.0	N	5/3/2018	mg/kg	110
Z13	Z13-F1-2.0	FD	5/3/2018	mg/kg	99.9
Z13	Z13-F-2.0	N	5/3/2018	mg/kg	102
Z14	Z14-F-1.0	N	5/3/2018	mg/kg	196
Z15	Z15-F-1.0	N	4/19/2018	mg/kg	265
Z16	Z16-F-3.0	N	4/18/2018	mg/kg	63.6
Z17	Z17-F-4.0	N	4/18/2018	mg/kg	34.7
Z18	Z18-F-4.0	N	4/18/2018	mg/kg	**413**
Z18	Z18-F-5.0	N	5/2/2018	mg/kg	22.7
Z19	Z19-F-4.0	N	4/18/2018	mg/kg	**448**
Z19	Z19-F-5.0	N	5/2/2018	mg/kg	95.7
Z20	Z20-F-4.0	N	4/13/2018	mg/kg	367
Z21	Z21-F-4.0	N	4/13/2018	mg/kg	303
Z22	Z22-F-4.0	N	4/13/2018	mg/kg	17.8
Z22	Z22-SW-2.5	N	4/19/2018	mg/kg	93.6

Table 3 - Soil Confirmation Sample Analytical Results Summary

Upper Proctor Creek - Rodney Cook Senior Park Soil Remediation
310 Vine Street
Atlanta, Fulton County, GA

				Method	6010D
				Analyte	Total Lead
				Action Level (mg/kg)	400
Grid Location	Sample ID	Sample Type	Sample Date	Units	
Z3	Z3-F-2.0	N	6/11/2018	mg/kg	14.5
Z4	Z4-F-2.0	N	6/5/2018	mg/kg	16.7
Z4	Z4-SW-1.0	N	6/5/2018	mg/kg	14.2
Z5	Z5-F1-2.0	FD	6/5/2018	mg/kg	12.7
Z5	Z5-F-2.0	N	6/5/2018	mg/kg	23.6
Z6	Z6-F1-2.0	FD	5/15/2018	mg/kg	11.6
Z6	Z6-F-2.0	N	5/15/2018	mg/kg	13.5
Z7	Z7-F-2.0	N	5/11/2018	mg/kg	16.4
Z8	Z8-F-2.0	N	5/11/2018	mg/kg	227
Z9	Z9-F-2.0	N	5/11/2018	mg/kg	84.0

Sample ID was incorrect. Survey is correct and Column A is correct.
Overexcavated grid
Sample exceeds 400 mg/kg total lead
N : Normal
FD : Field Duplicate

APPENDIX A
SOIL CHARACTERIZATION AND CONFIRMATION SAMPLE LABORATORY REPORTS

APPENDIX B
WASTE MANIFESTS AND WEIGHT TICKETS

APPENDIX C
CONTOUR ENGINEERING TECHNICAL MEMORANDUMS

TECHNICAL MEMORANDUM

Upper Proctor Creek – Rodney Cook Senior Park
310 Vine Street
Atlanta, Fulton County, Georgia

Prepared for:	Astra Rohadfox JV
Prepared by:	Contour Engineering, LLC
Date:	April 23, 2018
Subject:	Soil Sampling Results Proposed Borrow Source – Grant Park Parking Deck Confederate Street and Boulevard Atlanta, Fulton County, GA

Purpose

In accordance with the Borrow Source Pre-Qualification Investigation Plan Addendum 2 dated April 11, 2018, Contour Engineering, LLC (Contour) has prepared this technical memorandum to document the sampling activities and the soil sampling results of the proposed borrow source.

Field Activities

Contour personnel and Wood mobilized to the site on April 17, 2018 to collect soil samples from the two proposed locations approved in the Work Plan. The site grading contractor had already started grading activities and a stockpile of soil was available for sampling. Wood directed Contour as to the two grab samples to collect for the borrow characterization. Two grab soil samples were collected and analyzed by Analytical Environmental Services, Inc. (AES) for total volatile organic compounds (VOCs) via EPA Method 8260, total semi-volatile organic compounds (SVOCs) via EPA Method 8270, total metals Appendix IX List in 40 Code of Federal Regulations (CFR) Part 264 via EPA Methods 6010 & 7471, polychlorinated biphenyls (PCB's) via EPA Method 8082, chlorinated pesticides via EPA Method 8081 and chlorinated herbicides via EPA Method 8151. Additionally, composite soil samples were collected and analyzed by Contour's geotechnical and materials testing laboratory for Soil Classification by ASTM D 2487, Standard Proctor Moisture-Density Curve by ASTM D 698, Organic Content by ASTM D 2974, and Atterberg limits by ASTM D 4318.

Soil Sample Results

Contour received the physical soil sample results from Contour's testing laboratory on April 20 and 23, 2018 and the chemical analysis results from AES on April 19, 2018. The two samples were labelled GP Borrow 1 and GP Borrow 2.

The physical analysis classified both Grant Park Parking Deck borrow samples as a silty sand (SM). The particle size distribution analysis reports none of the soil sample was greater than four inches in dimension. The organic content analysis reports 1.5 to 2.7 percent organics in the borrow soil samples. According to the physical analysis, the borrow soil meets the physical characteristics as specified in Specification 31 23 43. Attachment 1 presents the physical testing reports.

A total of 9 constituents were detected in the chemical soil sample results. Attachment 2 presents Table 1 illustrating the detected constituents and the applicable screening criteria comparison. Of the 9 constituents detected, none exceeded the Hazardous Site Response Act (HSRA) Notification Concentrations (NCs) provided in

Appendix I of the HSRA rules 391-3-19 O.C.G.A., Section 12-8-90. Thallium exceeded the Type 1 HSRA Risk Reduction Standard (RRS) calculated per 391-3-19-.07(6) of the HSRA rules. All other detected constituents were below the most stringent of the HSRA NCs or the Type 1 RRS. The AES laboratory report is included in Attachment 3.

Accordingly, the Astra Rohadfox JV team requests the Grant Park Parking Deck borrow source be approved as fill material for the Upper Proctor Creek – Rodney Cook Senior Park site.

Attachments

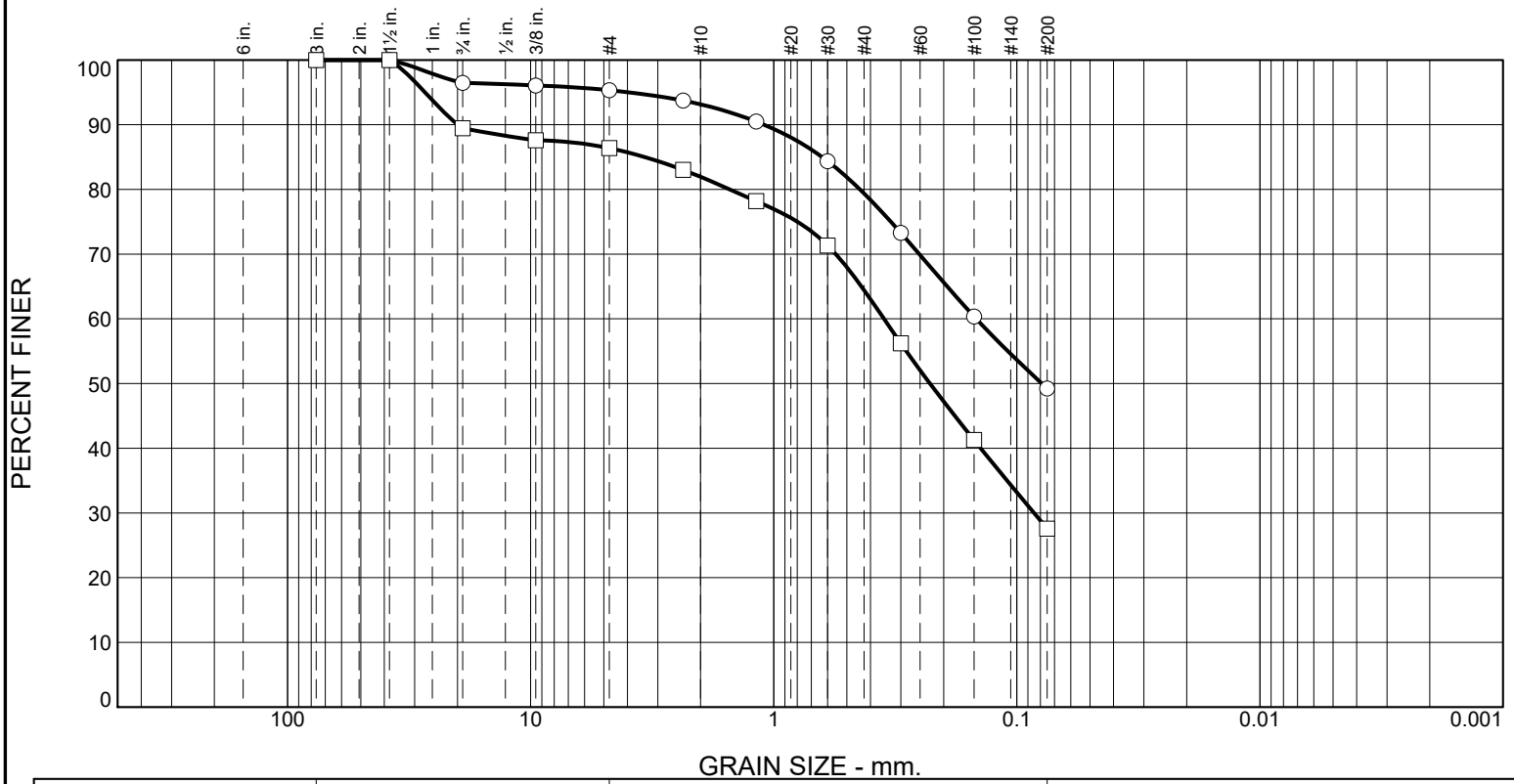
Attachment 1 – Physical Testing Laboratory Reports

Attachment 2 – Table 1 Soil Analytical Results

Attachment 3 – Chemical Testing Laboratory Report

Attachment 1
Physical Testing Results

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	3.5	1.2	2.2	13.7	30.2	49.2	
□	0.0	10.5	3.1	4.5	17.5	36.8	27.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_u
○	NV	NP	0.6323	0.1469	0.0789					
□	NV	NP	3.3904	0.3520	0.2277	0.0849				

Material Description	USCS	AASHTO
○ Brown tan silty SAND (SM)	SM	A-4(0)
□ Light brown red silty SAND (SM)	SM	A-2-4(0)

Project No. T17AGI02 **Client:** Astra Group, Inc

Project: Upper Proctor Creek

○ **Location:** Borrow #1 (Grant Park Parking Deck) **Sample Number:** S-3

□ **Location:** Borrow #2 (Grant Park Parking Deck) **Sample Number:** S-4

Remarks:

CONTOUR ENGINEERING

Figure

PROCTOR TEST REPORT

Curve No.: P-3

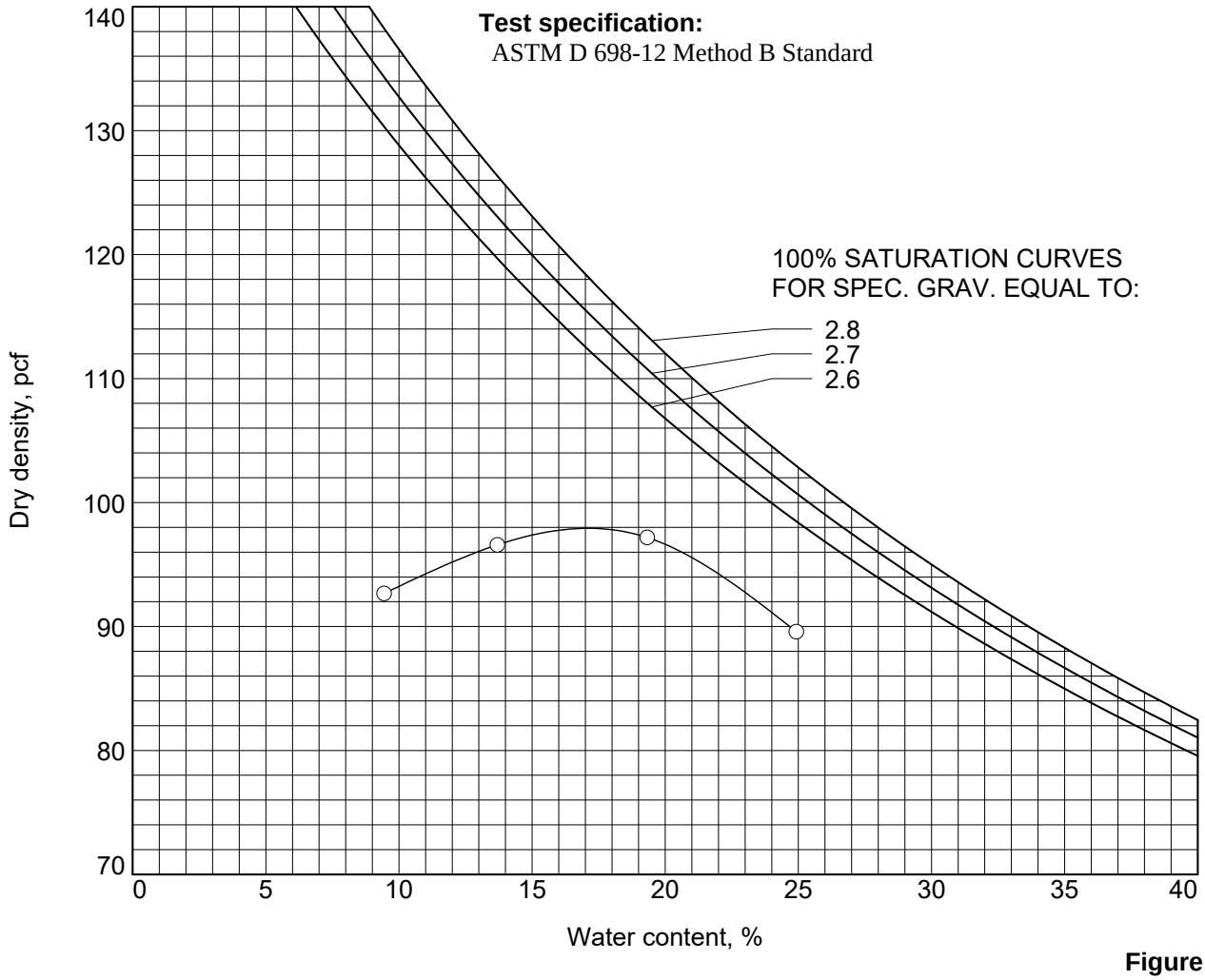
Project No.: T17AGI02 **Date:** 4-17-18
Project: Upper Proctor Creek
Client: Astra Group, Inc
Location: Borrow #1 (Grant Park Parking Deck)
Sample Number: S-3
Remarks:

MATERIAL DESCRIPTION

Description: Brown tan silty SAND (SM)

Classifications - **USCS:** SM **AASHTO:** A-4(0)
Nat. Moist. = 10.3 % **Sp.G. =**
Liquid Limit = NV **Plasticity Index =** NP
%<No.10 = 93.1 % **%<No.40 =** 79.4 %
%<No.60 = 69.9 % **%<No.200 =** 49.2 %

TEST RESULTS
Maximum dry density = 97.9 pcf
Optimum moisture = 17.1 %



Figure

PROCTOR TEST REPORT

Curve No.: P-4

Project No.: T17AGI02 **Date:** 4-17-18

Project: Upper Proctor Creek

Client: Astra Group, Inc

Location: Borrow #2 (Grant Park Parking Deck)

Sample Number: S-4

Remarks:

MATERIAL DESCRIPTION

Description: Light brown red silty SAND (SM)

Classifications - **USCS:** SM **AASHTO:** A-2-4(0)

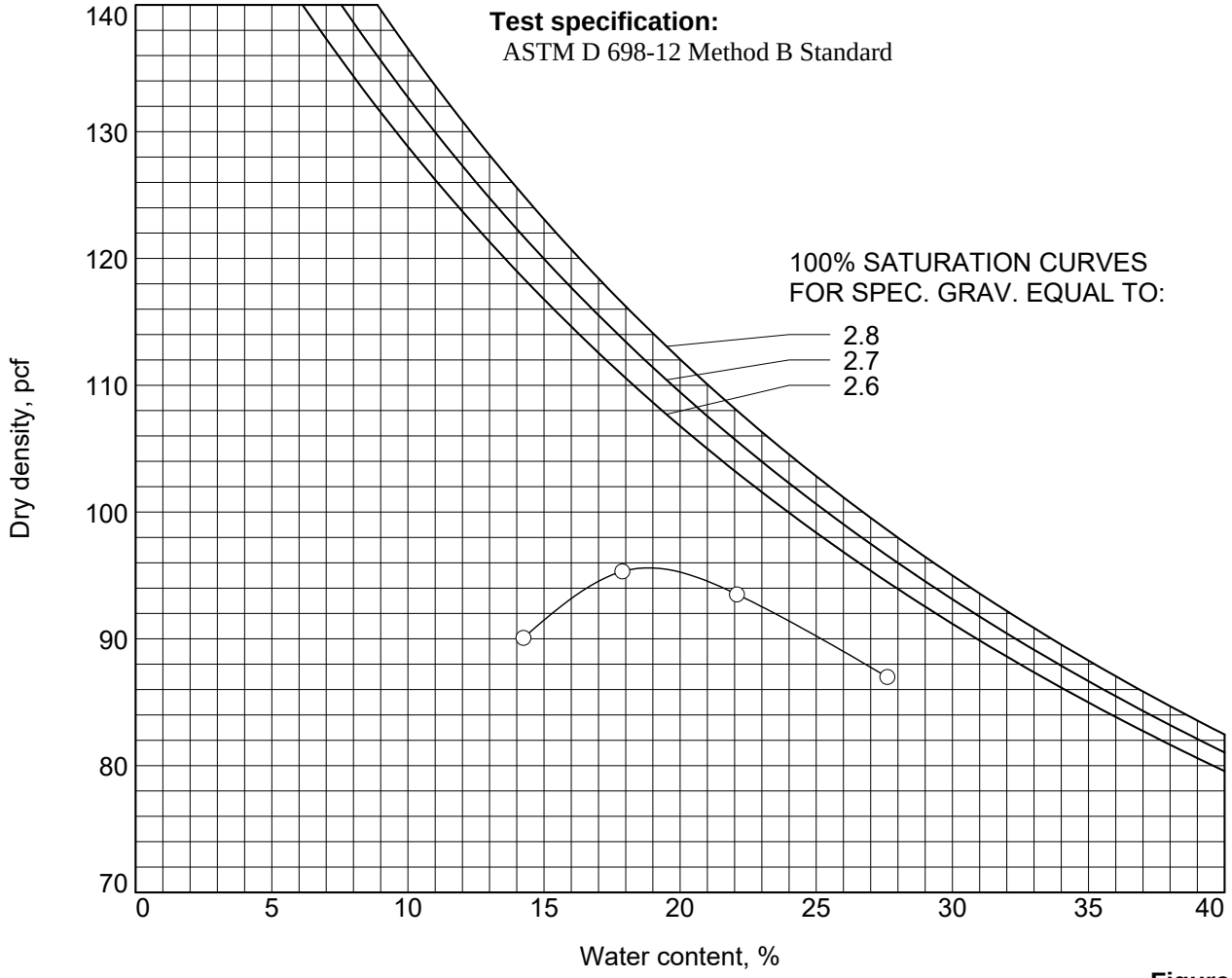
Nat. Moist. = 9.8 % **Sp.G. =**

Liquid Limit = NV **Plasticity Index =** NP

%<No.10 = 81.9 % **%<No.40 =** 64.4 %

%<No.60 = 52.1 % **%<No.200 =** 27.6 %

TEST RESULTS
Maximum dry density = 95.6 pcf
Optimum moisture = 18.8 %



Figure

CONTOUR ENGINEERING

Moisture, Ash, and Organic Matter of Peat and Other Organic Soils
ASTM D 2974 (Method C)

Project Name: Upper Proctor Creek Project No.: T17AGI01

Sample No.: GP Borrow 1 Date: 4/20/2018

Wt of Wet Soil + Tare	141.6
Wt of Dry Soil + Tare	127.8
Wt of Tare	33.5
Weight of Water	13.8
Weight of Dry Soil	94.3

Moisture Content (%) **14.6**

Wt of Dry Soil + Tare	122.8
Wt of Ash + Tare	121.9
Wt of Tare	64.7
Weight of Ash	57.2
Weight of Dry Soil	58.1

Ash Content (%) **98.5**

Organic Content (%) **1.5**

CONTOUR ENGINEERING

Moisture, Ash, and Organic Matter of Peat and Other Organic Soils
ASTM D 2974 (Method C)

Project Name: Upper Proctor Creek Project No.: T17AGI01

Sample No.: GP Borrow 2 Date: 4/20/2018

Wt of Wet Soil + Tare	140.4
Wt of Dry Soil + Tare	126.9
Wt of Tare	33.2
Weight of Water	13.5
Weight of Dry Soil	93.7

Moisture Content (%) **14.4**

Wt of Dry Soil + Tare	122.1
Wt of Ash + Tare	120.6
Wt of Tare	67.1
Weight of Ash	53.5
Weight of Dry Soil	55.0

Ash Content (%) **97.3**

Organic Content (%) **2.7**

Attachment 2
Table 1 Soil Analytical Results

Upper Proctor Creek - Rodney Cook Senior Park
Vine Street Properties
Atlanta, Fulton County, Georgia

Table 1: Soil Analytical Results
(Metals, VOCs, SVOCs, PCBs, Pesticides, and Herbicides)
Proposed Borrow Source - Grant Park Parking Deck
Confederate Street and Boulevard
Atlanta, Fulton County, Georgia

Sample Location	Date Sampled	Sample Depth (ft)	Appendix IX Metals									VOCs (mg/kg)	PCBs (mg/kg)	SVOCs (mg/kg)	Pesticides (mg/kg)	Herbicides (mg/kg)
			Barium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)					
GP Borrow -1	4/17/2018	Stockpile	126	26.6	15.0	22.0	17.3	11.2	4.83	85.6	57.8	BRL	BRL	BRL	BRL	BRL
GP Borrow-2	4/17/2018	Stockpile	172	30.9	18.3	34.8	13.4	18.8	4.92	66.5	65.2	BRL	BRL	BRL	BRL	BRL
HSRA NC			500/BG	1,200	25/BG	1,500	400	420	10/BG	100/BG	2,800	NA	NA	NA	NA	NA
Type 1 RRS			1,000	100	20	100	75.0	50	2	100	100	NA	NA	NA	NA	NA

Notes:

Only detected constituents are shown on the table.
PCBs = polychlorinated biphenyls
VOCs = Volatile Organic Compounds
SVOCs = Semi-Voltile Organic Compounds
RRS = Risk Reduction Standard (GAC 391-3-19-.07)
ft = feet
mg/kg = milligrams per kilogram
NA= Not Applicable
BRL= Below Reporting Limit
Values in **bold** exceed the HSRA NC.
Shaded values exceed the Type 1 RRS.

Attachment 3
Chemical Testing Laboratory Reports

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

April 19, 2018

Matt Sprewell
Contour Engineering, LLC

1955 Vaugh Rd.
Kennesaw GA 30144

RE: UPC

Dear Matt Sprewell: Order No: 1804G10

Analytical Environmental Services, Inc. received 3 samples on April 17, 2018 2:57 pm 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's accreditations are as follows:
-NELAP/State of Florida Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, Air & Emissions Volatile Organics, and Drinking Water Microbiology & Metals, effective 07/01/17-06/30/18. State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-NELAP/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 11/01/19.
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.

Sincerely,

Jessica Shilling

Jessica Shilling

Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3080 Presidential Drive Atlanta, GA 30340-3704
Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

AES

CHAIN OF CUSTODY

Work Order: 1804G10

Date: 4/17/18 Page 1 of 1

COMPANY: Contour Engineering, LLC

ADDRESS: 1955 Vaughn Rd. Ste 101 Kennesaw, Ga. 30144

PHONE: 770.794.0266

EMAIL:

SAMPLED BY: M. Sprewell

SIGNATURE: [signature]

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

ANALYSIS REQUESTED: VOCs 8260 | SVOCs 8270 | Total Metals Appendix IX | PCBs 8082 | Pesticides 8081 | Herbicides 8151

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	VOCs 8260	SVOCs 8270	Total Metals Appendix IX	PCBs 8082	Pesticides 8081	Herbicides 8151	REMARKS	Number of Containers
1	GP Borrow 1	4/17/18	1015	X		SO	X	X	X	X	X	X		6
2	GP Borrow 2	4/17/18	1018	X		SO	X	X	X	X	X	X		6
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														

PRESERVATION (see codes)

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. [signature]	4/17/16 1457	1. Monique Albrdon	4/17/18 2:57pm
2.		2.	
3.		3.	

PROJECT INFORMATION

PROJECT NAME: UPL

PROJECT #: E17AGT:01

SITE ADDRESS: Vine St.

SEND REPORT TO:

INVOICE TO:
(IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 12

Turnaround Time (TAT) 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? ☐ Fax? ☐

DATA PACKAGE: I ○ II ○ III ○ IV ○

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT: / / VIA:

IN: / / VIA:

(client) FedEx UPS US mail courier Greyhound other: ______

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arangements are made.

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

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

Client: Contour Engineering, LLC
Project: UPC
Lab ID: 1804G10

Case Narrative

Sample Receiving Nonconformance:

A Trip Blank was provided but not listed on the Chain of Custody. Trip blank analyzed at no cost to the client.

Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 1
Project Name	UPC	**Collection Date:**	4/17/2018 10:15:00 AM
Lab ID:	1804G10-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.104		mg/Kg-dry	259237	1	04/19/2018 09:08	AJ
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
1,1´-Biphenyl	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2,4,5-Trichlorophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2,4,6-Trichlorophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2,4-Dichlorophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2,4-Dinitrophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2,4-Dinitrotoluene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2,6-Dinitrotoluene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2-Chloronaphthalene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2-Chlorophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2-Methylnaphthalene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2-Methylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2-Nitroaniline	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
2-Nitrophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
3,3´-Dichlorobenzidine	BRL	770		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
3-Nitroaniline	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4,6-Dinitro-2-methylphenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4-Bromophenyl phenyl ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4-Chloro-3-methylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4-Chloroaniline	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4-Chlorophenyl phenyl ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4-Methylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4-Nitroaniline	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
4-Nitrophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Acenaphthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Acenaphthylene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Acetophenone	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Anthracene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Atrazine	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Benz(a)anthracene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Benzaldehyde	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Benzo(a)pyrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Benzo(b)fluoranthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Benzo(g,h,i)perylene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Benzo(k)fluoranthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Bis(2-chloroethoxy)methane	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Bis(2-chloroethyl)ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Bis(2-chloroisopropyl)ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 1
Project Name	UPC	**Collection Date:**	4/17/2018 10:15:00 AM
Lab ID:	1804G10-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Bis(2-ethylhexyl)phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Butyl benzyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Caprolactam	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Carbazole	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Chrysene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Di-n-butyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Di-n-octyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Dibenz(a,h)anthracene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Dibenzofuran	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Diethyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Dimethyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Fluoranthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Fluorene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Hexachlorobenzene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Hexachlorobutadiene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Hexachlorocyclopentadiene	BRL	760		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Hexachloroethane	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Indeno(1,2,3-cd)pyrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Isophorone	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
N-Nitrosodi-n-propylamine	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
N-Nitrosodiphenylamine	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Naphthalene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Nitrobenzene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Pentachlorophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Phenanthrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Phenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Pyrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:21	YH
Surr: 2,4,6-Tribromophenol	90.9	48.2-133		%REC	259196	1	04/18/2018 17:21	YH
Surr: 2-Fluorobiphenyl	88.9	50.2-120		%REC	259196	1	04/18/2018 17:21	YH
Surr: 2-Fluorophenol	69.8	41.6-120		%REC	259196	1	04/18/2018 17:21	YH
Surr: 4-Terphenyl-d14	90	52.1-122		%REC	259196	1	04/18/2018 17:21	YH
Surr: Nitrobenzene-d5	68.5	41.4-120		%REC	259196	1	04/18/2018 17:21	YH
Surr: Phenol-d5	81.9	45.7-120		%REC	259196	1	04/18/2018 17:21	YH
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
1,1,1-Trichloroethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,1,2,2-Tetrachloroethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,1,2-Trichloroethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,1-Dichloroethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,1-Dichloroethene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,2,4-Trichlorobenzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR

Qualifiers:

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- BRL Below reporting limit
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- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 1
Project Name	UPC	**Collection Date:**	4/17/2018 10:15:00 AM
Lab ID:	1804G10-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
1,2-Dibromo-3-chloropropane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,2-Dibromoethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,2-Dichlorobenzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,2-Dichloroethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,2-Dichloropropane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,3-Dichlorobenzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
1,4-Dichlorobenzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
2-Butanone	BRL	150		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
2-Hexanone	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
4-Methyl-2-pentanone	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Acetone	BRL	290		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Benzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Bromodichloromethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Bromoform	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Bromomethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Carbon disulfide	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Carbon tetrachloride	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Chlorobenzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Chloroethane	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Chloroform	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Chloromethane	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
cis-1,2-Dichloroethene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
cis-1,3-Dichloropropene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Cyclohexane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Dibromochloromethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Dichlorodifluoromethane	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Ethylbenzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Freon-113	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Isopropylbenzene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
m,p-Xylene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Methyl acetate	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Methyl tert-butyl ether	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Methylcyclohexane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Methylene chloride	BRL	58		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
o-Xylene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Styrene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Tetrachloroethene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Toluene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
trans-1,2-Dichloroethene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
trans-1,3-Dichloropropene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Trichloroethene	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR

Qualifiers:

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- BRL Below reporting limit
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- N Analyte not NELAC certified
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Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 1
Project Name	UPC	**Collection Date:**	4/17/2018 10:15:00 AM
Lab ID:	1804G10-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Trichlorofluoromethane	BRL	15		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Vinyl chloride	BRL	29		ug/Kg-dry	259431	1	04/18/2018 13:49	AR
Surr: 4-Bromofluorobenzene	95.3	65-133		%REC	259431	1	04/18/2018 13:49	AR
Surr: Dibromofluoromethane	99.9	75.8-119		%REC	259431	1	04/18/2018 13:49	AR
Surr: Toluene-d8	98.4	78.3-120		%REC	259431	1	04/18/2018 13:49	AR
POLYCHLORINATED BIPHENYLS SW8082A				**(SW3546)**				
Aroclor 1016	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1221	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1232	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1242	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1248	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1254	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1260	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1262	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Aroclor 1268	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:02	SH
Surr: Decachlorobiphenyl	87.5	45.6-131		%REC	259325	1	04/18/2018 19:02	SH
Surr: Tetrachloro-m-xylene	77.8	47.1-130		%REC	259325	1	04/18/2018 19:02	SH
CHLORINATED PESTICIDES, TCL SW8081B				**(SW3550C)**				
4,4´-DDD	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
4,4´-DDE	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
4,4´-DDT	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Aldrin	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
alpha-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
alpha-Chlordane	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
beta-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
delta-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Dieldrin	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Endosulfan I	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Endosulfan II	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Endosulfan sulfate	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Endrin	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Endrin aldehyde	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Endrin ketone	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
gamma-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
gamma-Chlordane	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Heptachlor	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Heptachlor epoxide	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Methoxychlor	BRL	19		ug/Kg-dry	259332	1	04/19/2018 13:12	SH
Toxaphene	BRL	190		ug/Kg-dry	259332	1	04/19/2018 02:05	SH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 1
Project Name	UPC	**Collection Date:**	4/17/2018 10:15:00 AM
Lab ID:	1804G10-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
CHLORINATED PESTICIDES, TCL SW8081B				**(SW3550C)**				
Surr: Decachlorobiphenyl	99.2	45-128		%REC	259332	1	04/19/2018 02:05	SH
Surr: Tetrachloro-m-xylene	103	46-120		%REC	259332	1	04/19/2018 02:05	SH
CHLORINATED HERBICIDES SW8151A				**(SW3550C)**				
2,4,5-T	BRL	38		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
2,4,5-TP (Silvex)	BRL	38		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
2,4-D	BRL	38		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
2,4-DB	BRL	200		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
Dalapon	BRL	380		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
Dicamba	BRL	38		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
Dichlorprop	BRL	38		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
Dinoseb	BRL	98		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
MCPA	BRL	3800		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
MCPP	BRL	3800		ug/Kg-dry	259152	1	04/18/2018 16:15	UH
Surr: DCAA	57.2	44.3-132		%REC	259152	1	04/18/2018 16:15	UH
APPENDIX IX METALS SW6010D				**(SW3050B)**				
Antimony	BRL	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Arsenic	BRL	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Barium	126	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Beryllium	BRL	2.16		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Cadmium	BRL	2.16		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Chromium	26.6	2.16		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Cobalt	15.0	2.16		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Copper	22.0	2.16		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Lead	17.3	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Nickel	11.2	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Selenium	BRL	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Silver	BRL	2.16		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Thallium	4.83	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Tin	BRL	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Vanadium	85.6	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
Zinc	57.8	4.32		mg/Kg-dry	259334	1	04/19/2018 11:42	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.1	0		wt%	R368174	1	04/18/2018 12:00	NS

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 **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 2
Project Name	UPC	**Collection Date:**	4/17/2018 10:18:00 AM
Lab ID:	1804G10-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.110		mg/Kg-dry	259237	1	04/19/2018 09:55	AJ
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
1,1´-Biphenyl	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2,4,5-Trichlorophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2,4,6-Trichlorophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2,4-Dichlorophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2,4-Dinitrophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2,4-Dinitrotoluene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2,6-Dinitrotoluene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2-Chloronaphthalene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2-Chlorophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2-Methylnaphthalene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2-Methylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2-Nitroaniline	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
2-Nitrophenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
3,3´-Dichlorobenzidine	BRL	770		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
3-Nitroaniline	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4,6-Dinitro-2-methylphenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4-Bromophenyl phenyl ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4-Chloro-3-methylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4-Chloroaniline	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4-Chlorophenyl phenyl ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4-Methylphenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4-Nitroaniline	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
4-Nitrophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Acenaphthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Acenaphthylene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Acetophenone	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Anthracene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Atrazine	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Benz(a)anthracene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Benzaldehyde	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Benzo(a)pyrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Benzo(b)fluoranthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Benzo(g,h,i)perylene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Benzo(k)fluoranthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Bis(2-chloroethoxy)methane	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Bis(2-chloroethyl)ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Bis(2-chloroisopropyl)ether	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH

Qualifiers:

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- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
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Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 2
Project Name	UPC	**Collection Date:**	4/17/2018 10:18:00 AM
Lab ID:	1804G10-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Bis(2-ethylhexyl)phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Butyl benzyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Caprolactam	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Carbazole	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Chrysene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Di-n-butyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Di-n-octyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Dibenz(a,h)anthracene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Dibenzofuran	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Diethyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Dimethyl phthalate	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Fluoranthene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Fluorene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Hexachlorobenzene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Hexachlorobutadiene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Hexachlorocyclopentadiene	BRL	760		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Hexachloroethane	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Indeno(1,2,3-cd)pyrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Isophorone	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
N-Nitrosodi-n-propylamine	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
N-Nitrosodiphenylamine	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Naphthalene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Nitrobenzene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Pentachlorophenol	BRL	2000		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Phenanthrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Phenol	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Pyrene	BRL	380		ug/Kg-dry	259196	1	04/18/2018 17:48	YH
Surr: 2,4,6-Tribromophenol	79	48.2-133		%REC	259196	1	04/18/2018 17:48	YH
Surr: 2-Fluorobiphenyl	77.6	50.2-120		%REC	259196	1	04/18/2018 17:48	YH
Surr: 2-Fluorophenol	50.7	41.6-120		%REC	259196	1	04/18/2018 17:48	YH
Surr: 4-Terphenyl-d14	79.1	52.1-122		%REC	259196	1	04/18/2018 17:48	YH
Surr: Nitrobenzene-d5	56.4	41.4-120		%REC	259196	1	04/18/2018 17:48	YH
Surr: Phenol-d5	64.7	45.7-120		%REC	259196	1	04/18/2018 17:48	YH
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
1,1,1-Trichloroethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,1,2,2-Tetrachloroethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,1,2-Trichloroethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,1-Dichloroethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,1-Dichloroethene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,2,4-Trichlorobenzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR

Qualifiers:

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- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 2
Project Name	UPC	**Collection Date:**	4/17/2018 10:18:00 AM
Lab ID:	1804G10-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
1,2-Dibromo-3-chloropropane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,2-Dibromoethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,2-Dichlorobenzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,2-Dichloroethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,2-Dichloropropane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,3-Dichlorobenzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
1,4-Dichlorobenzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
2-Butanone	BRL	98		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
2-Hexanone	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
4-Methyl-2-pentanone	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Acetone	BRL	200		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Benzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Bromodichloromethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Bromoform	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Bromomethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Carbon disulfide	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Carbon tetrachloride	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Chlorobenzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Chloroethane	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Chloroform	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Chloromethane	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
cis-1,2-Dichloroethene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
cis-1,3-Dichloropropene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Cyclohexane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Dibromochloromethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Dichlorodifluoromethane	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Ethylbenzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Freon-113	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Isopropylbenzene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
m,p-Xylene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Methyl acetate	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Methyl tert-butyl ether	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Methylcyclohexane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Methylene chloride	BRL	39		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
o-Xylene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Styrene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Tetrachloroethene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Toluene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
trans-1,2-Dichloroethene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
trans-1,3-Dichloropropene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Trichloroethene	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR

Qualifiers:

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Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 2
Project Name	UPC	**Collection Date:**	4/17/2018 10:18:00 AM
Lab ID:	1804G10-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Trichlorofluoromethane	BRL	9.8		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Vinyl chloride	BRL	20		ug/Kg-dry	259431	1	04/18/2018 14:14	AR
Surr: 4-Bromofluorobenzene	96.6	65-133		%REC	259431	1	04/18/2018 14:14	AR
Surr: Dibromofluoromethane	98.6	75.8-119		%REC	259431	1	04/18/2018 14:14	AR
Surr: Toluene-d8	99.2	78.3-120		%REC	259431	1	04/18/2018 14:14	AR
POLYCHLORINATED BIPHENYLS SW8082A				**(SW3546)**				
Aroclor 1016	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1221	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1232	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1242	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1248	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1254	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1260	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1262	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Aroclor 1268	BRL	38		ug/Kg-dry	259325	1	04/18/2018 19:33	SH
Surr: Decachlorobiphenyl	80.7	45.6-131		%REC	259325	1	04/18/2018 19:33	SH
Surr: Tetrachloro-m-xylene	79.6	47.1-130		%REC	259325	1	04/18/2018 19:33	SH
CHLORINATED PESTICIDES, TCL SW8081B				**(SW3550C)**				
4,4´-DDD	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
4,4´-DDE	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
4,4´-DDT	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Aldrin	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
alpha-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
alpha-Chlordane	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
beta-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
delta-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Dieldrin	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Endosulfan I	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Endosulfan II	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Endosulfan sulfate	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Endrin	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Endrin aldehyde	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Endrin ketone	BRL	3.8		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
gamma-BHC	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
gamma-Chlordane	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Heptachlor	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Heptachlor epoxide	BRL	1.9		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Methoxychlor	BRL	19		ug/Kg-dry	259332	1	04/19/2018 13:23	SH
Toxaphene	BRL	190		ug/Kg-dry	259332	1	04/19/2018 02:17	SH

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 **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 2
Project Name	UPC	**Collection Date:**	4/17/2018 10:18:00 AM
Lab ID:	1804G10-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
CHLORINATED PESTICIDES, TCL SW8081B				**(SW3550C)**				
Surr: Decachlorobiphenyl	87.9	45-128		%REC	259332	1	04/19/2018 02:17	SH
Surr: Tetrachloro-m-xylene	101	46-120		%REC	259332	1	04/19/2018 02:17	SH
CHLORINATED HERBICIDES SW8151A				**(SW3550C)**				
2,4,5-T	BRL	38		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
2,4,5-TP (Silvex)	BRL	38		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
2,4-D	BRL	38		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
2,4-DB	BRL	200		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
Dalapon	BRL	380		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
Dicamba	BRL	38		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
Dichlorprop	BRL	38		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
Dinoseb	BRL	98		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
MCPA	BRL	3800		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
MCPP	BRL	3800		ug/Kg-dry	259152	1	04/19/2018 10:00	UH
Surr: DCAA	59.3	44.3-132		%REC	259152	1	04/19/2018 10:00	UH
APPENDIX IX METALS SW6010D				**(SW3050B)**				
Antimony	BRL	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Arsenic	BRL	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Barium	172	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Beryllium	BRL	2.09		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Cadmium	BRL	2.09		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Chromium	30.9	2.09		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Cobalt	18.3	2.09		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Copper	34.8	2.09		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Lead	13.4	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Nickel	18.8	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Selenium	BRL	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Silver	BRL	2.09		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Thallium	4.92	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Tin	BRL	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Vanadium	66.5	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
Zinc	65.2	4.18		mg/Kg-dry	259334	1	04/19/2018 11:51	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.2	0		wt%	R368174	1	04/18/2018 12:00	NS

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	TRIP BLANK
Project Name	UPC	**Collection Date:**	4/17/2018
Lab ID:	1804G10-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,1-Dichloroethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,1-Dichloroethene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,2-Dibromoethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,2-Dichloroethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,2-Dichloropropane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
2-Butanone	BRL	50		ug/L	259434	1	04/19/2018 09:38	NP
2-Hexanone	BRL	10		ug/L	259434	1	04/19/2018 09:38	NP
4-Methyl-2-pentanone	BRL	10		ug/L	259434	1	04/19/2018 09:38	NP
Acetone	BRL	50		ug/L	259434	1	04/19/2018 09:38	NP
Benzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Bromodichloromethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Bromoform	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Bromomethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Carbon disulfide	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Carbon tetrachloride	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Chlorobenzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Chloroethane	BRL	10		ug/L	259434	1	04/19/2018 09:38	NP
Chloroform	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Chloromethane	BRL	10		ug/L	259434	1	04/19/2018 09:38	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Cyclohexane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Dibromochloromethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Dichlorodifluoromethane	BRL	10		ug/L	259434	1	04/19/2018 09:38	NP
Ethylbenzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Freon-113	BRL	10		ug/L	259434	1	04/19/2018 09:38	NP
Isopropylbenzene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
m,p-Xylene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Methyl acetate	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Methylcyclohexane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Methylene chloride	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
o-Xylene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 19-Apr-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	TRIP BLANK
Project Name	UPC	**Collection Date:**	4/17/2018
Lab ID:	1804G10-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Tetrachloroethene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Toluene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Trichloroethene	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Trichlorofluoromethane	BRL	5.0		ug/L	259434	1	04/19/2018 09:38	NP
Vinyl chloride	BRL	2.0		ug/L	259434	1	04/19/2018 09:38	NP
Surr: 4-Bromofluorobenzene	97.9	68-127		%REC	259434	1	04/19/2018 09:38	NP
Surr: Dibromofluoromethane	101	84.4-122		%REC	259434	1	04/19/2018 09:38	NP
Surr: Toluene-d8	100	80.1-116		%REC	259434	1	04/19/2018 09:38	NP

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

Clear Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC. AES

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **Contour Engineering, LLC** AES Work Order Number: **1804G10**

2. Carrier: FedEx ☐ UPS ☐ USPS ☐ Client ■ Courier ☐ Other _____

		Yes	No	N/A	Details	Comments
3.	Shipping container/cooler received in good condition?	●	○	○	damaged ☐ leaking ☐ other ☐	
4.	Custody seals present on shipping container?	○	●	○		
5.	Custody seals intact on shipping container?	○	○	●		
6.	Temperature blanks present?	●	○	○		
7.	Cooler temperature(s) within limits of 0-6°C? [See item 13 and 14 for temperature recordings.]	●	○	○	Cooling initiated for recently collected samples / ice present ☐	
8.	Chain of Custody (COC) present?	●	○	○		
9.	Chain of Custody signed, dated, and timed when relinquished and received?	●	○	○		
10.	Sampler name and/or signature on COC?	●	○	○		
11.	Were all samples received within holding time?	●	○	○		
12.	TAT marked on the COC?	●	○	○	If no TAT indicated, proceeded with standard TAT per Terms & Conditions. ☐	

13. Cooler 1 Temperature 4.6 °C Cooler 2 Temperature _____ °C Cooler 3 Temperature _____ °C Cooler 4 Temperature _____ °C

14. Cooler 5 Temperature _____ °C Cooler 6 Temperature _____ °C Cooler 7 Temperature _____ °C Cooler 8 Temperature _____ °C

15. Comments: _____

I certify that I have completed sections 1-15 (dated initials). AJJ 4/17/18

		Yes	No	N/A	Details	Comments
16.	Were sample containers intact upon receipt?	●	○	○		
17.	Custody seals present on sample containers?	○	●	○		
18.	Custody seals intact on sample containers?	○	○	●		
19.	Do sample container labels match the COC?	●	○	○	incomplete info ☐ illegible ☐ no label ☐ other ☐	
20.	Are analyses requested indicated on the COC?	●	○	○		
21.	Were all of the samples listed on the COC received?	●	○	○	samples received but not listed on COC ☐ samples listed on COC not received ☐	
22.	Was the sample collection date/time noted?	●	○	○		
23.	Did we receive sufficient sample volume for indicated analyses?	●	○	○		
24.	Were samples received in appropriate containers?	●	○	○		
25.	Were VOA samples received without headspace (< 1/4" bubble)?	●	○	○		
26.	Were trip blanks submitted?	●	○	○	listed on COC ☐ not listed on COC ■	

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). AJJ 4/17/18

This section only applies to samples where pH can be checked at Sample Receipt.

		Yes	No	N/A	Details	Comments
28.	Have containers needing chemical preservation been checked? *	○	○	●		
29.	Containers meet preservation guidelines?	○	○	●		
30.	Was pH adjusted at Sample Receipt?	○	○	●		

* Note: Certain analyses require chemical preservation but must be checked in the laboratory and not upon Sample Receipt such as Coliforms, VOCs and Oil & Grease/TPH.

I certify that I have completed sections 28-30 (dated initials). AJJ 4/17/18

Locked

Client: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259152

Sample ID: **MB-259152** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368233**
SampleType: **MBLK** TestCode: **CHLORINATED HERBICIDES SW8151A** BatchID: **259152** Analysis Date: **04/18/2018** Seq No: **8152304**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4,5-T	BRL	33									
2,4,5-TP (Silvex)	BRL	33									
2,4-D	BRL	33									
2,4-DB	BRL	170									
Dalapon	BRL	330									
Dicamba	BRL	33									
Dichlorprop	BRL	33									
Dinoseb	BRL	85									
MCPA	BRL	3300									
MCPP	BRL	3300									
Surr: DCAA	125.0	0	166.7		75.0	44.3	132				

Sample ID: **LCS-259152** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368233**
SampleType: **LCS** TestCode: **CHLORINATED HERBICIDES SW8151A** BatchID: **259152** Analysis Date: **04/18/2018** Seq No: **8152305**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4,5-T	132.3	33	166.7		79.3	51.4	125				
2,4,5-TP (Silvex)	124.6	33	166.7		74.8	52.1	120				
2,4-D	134.3	33	166.7		80.5	41.9	124				
Dicamba	135.7	33	166.7		81.4	50.4	120				
Dichlorprop	128.8	33	166.7		77.3	50.6	121				
Surr: DCAA	117.7	0	166.7		70.6	44.3	132				

Sample ID: **1804C16-048AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368233**
SampleType: **MS** TestCode: **CHLORINATED HERBICIDES SW8151A** BatchID: **259152** Analysis Date: **04/18/2018** Seq No: **8152307**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4,5-T	115.7	38	190.6		60.7	43	124				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259152

Sample ID: **1804C16-048AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368233**
SampleType: **MS** TestCode: **CHLORINATED HERBICIDES SW8151A** BatchID: **259152** Analysis Date: **04/18/2018** Seq No: **8152307**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	109.5	38	190.6		57.4	49.3	121				
2,4-D	113.8	38	190.6		59.7	40.9	129				
Dicamba	119.6	38	190.6		62.8	47	128				
Dichlorprop	111.2	38	190.6		58.3	41.3	125				
Surr: DCAA	108.4	0	190.6		56.9	44.3	132				

Sample ID: **1804C16-048AMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368233**
SampleType: **MSD** TestCode: **CHLORINATED HERBICIDES SW8151A** BatchID: **259152** Analysis Date: **04/18/2018** Seq No: **8152308**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4,5-T	133.9	38	191.1		70.1	43	124	115.7	14.6	32.1	
2,4,5-TP (Silvex)	127.2	38	191.1		66.5	49.3	121	109.5	14.9	30.9	
2,4-D	132.8	38	191.1		69.5	40.9	129	113.8	15.4	39.4	
Dicamba	138.9	38	191.1		72.7	47	128	119.6	14.9	28.7	
Dichlorprop	132.2	38	191.1		69.2	41.3	125	111.2	17.3	52.5	
Surr: DCAA	124.9	0	191.1		65.3	44.3	132	108.4	0	0	

Client: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259196

Sample ID: **MB-259196** Client ID: Units: **ug/Kg** Prep Date: **04/17/2018** Run No: **368097**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148495**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	330									
2,4,5-Trichlorophenol	BRL	1700									
2,4,6-Trichlorophenol	BRL	330									
2,4-Dichlorophenol	BRL	330									
2,4-Dimethylphenol	BRL	330									
2,4-Dinitrophenol	BRL	1700									
2,4-Dinitrotoluene	BRL	330									
2,6-Dinitrotoluene	BRL	330									
2-Chloronaphthalene	BRL	330									
2-Chlorophenol	BRL	330									
2-Methylnaphthalene	BRL	330									
2-Methylphenol	BRL	330									
2-Nitroaniline	BRL	1700									
2-Nitrophenol	BRL	330									
3,3´-Dichlorobenzidine	BRL	670									
3-Nitroaniline	BRL	1700									
4,6-Dinitro-2-methylphenol	BRL	1700									
4-Bromophenyl phenyl ether	BRL	330									
4-Chloro-3-methylphenol	BRL	330									
4-Chloroaniline	BRL	330									
4-Chlorophenyl phenyl ether	BRL	330									
4-Methylphenol	BRL	330									
4-Nitroaniline	BRL	1700									
4-Nitrophenol	BRL	1700									
Acenaphthene	BRL	330									
Acenaphthylene	BRL	330									
Acetophenone	BRL	330									

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259196

Sample ID: **MB-259196** Client ID: Units: **ug/Kg** Prep Date: **04/17/2018** Run No: **368097**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148495**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	BRL	330									
Atrazine	BRL	330									
Benz(a)anthracene	BRL	330									
Benzaldehyde	BRL	330									
Benzo(a)pyrene	BRL	330									
Benzo(b)fluoranthene	BRL	330									
Benzo(g,h,i)perylene	BRL	330									
Benzo(k)fluoranthene	BRL	330									
Bis(2-chloroethoxy)methane	BRL	330									
Bis(2-chloroethyl)ether	BRL	330									
Bis(2-chloroisopropyl)ether	BRL	330									
Bis(2-ethylhexyl)phthalate	BRL	330									
Butyl benzyl phthalate	BRL	330									
Caprolactam	BRL	330									
Carbazole	BRL	330									
Chrysene	BRL	330									
Di-n-butyl phthalate	BRL	330									
Di-n-octyl phthalate	BRL	330									
Dibenz(a,h)anthracene	BRL	330									
Dibenzofuran	BRL	330									
Diethyl phthalate	BRL	330									
Dimethyl phthalate	BRL	330									
Fluoranthene	BRL	330									
Fluorene	BRL	330									
Hexachlorobenzene	BRL	330									
Hexachlorobutadiene	BRL	330									
Hexachlorocyclopentadiene	BRL	660									

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259196

Sample ID: **MB-259196** Client ID: Units: **ug/Kg** Prep Date: **04/17/2018** Run No: **368097**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148495**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	330									
Indeno(1,2,3-cd)pyrene	BRL	330									
Isophorone	BRL	330									
N-Nitrosodi-n-propylamine	BRL	330									
N-Nitrosodiphenylamine	BRL	330									
Naphthalene	BRL	330									
Nitrobenzene	BRL	330									
Pentachlorophenol	BRL	1700									
Phenanthrene	BRL	330									
Phenol	BRL	330									
Pyrene	BRL	330									
Surr: 2,4,6-Tribromophenol	2634	0	3333		79.0	48.2	133				
Surr: 2-Fluorobiphenyl	1343	0	1667		80.6	50.2	120				
Surr: 2-Fluorophenol	1987	0	3333		59.6	41.6	120				
Surr: 4-Terphenyl-d14	1415	0	1667		84.9	52.1	122				
Surr: Nitrobenzene-d5	1014	0	1667		60.8	41.4	120				
Surr: Phenol-d5	2148	0	3333		64.4	45.7	120				

Sample ID: **LCS-259196** Client ID: Units: **ug/Kg** Prep Date: **04/17/2018** Run No: **368097**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148498**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	2612	330	3333		78.4	54.6	120				
2-Chlorophenol	2510	330	3333		75.3	57	120				
4-Chloro-3-methylphenol	2712	330	3333		81.4	60.4	120				
4-Nitrophenol	2240	1700	3333		67.2	45.4	120				
Acenaphthene	2670	330	3333		80.1	60.6	120				
N-Nitrosodi-n-propylamine	2666	330	3333		80.0	62	117				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259196

Sample ID: **LCS-259196** Client ID: Units: **ug/Kg** Prep Date: **04/17/2018** Run No: **368097**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148498**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	BRL	1700	3333		50.4	43.4	119				
Phenol	2269	330	3333		68.1	50.5	120				
Pyrene	2743	330	3333		82.3	61.2	124				
Surr: 2,4,6-Tribromophenol	2897	0	3333		86.9	48.2	133				
Surr: 2-Fluorobiphenyl	1425	0	1667		85.5	50.2	120				
Surr: 2-Fluorophenol	2235	0	3333		67.1	41.6	120				
Surr: 4-Terphenyl-d14	1436	0	1667		86.1	52.1	122				
Surr: Nitrobenzene-d5	1174	0	1667		70.4	41.4	120				
Surr: Phenol-d5	2390	0	3333		71.7	45.7	120				

Sample ID: **1804E94-001BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **04/17/2018** Run No: **368097**
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148510**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	2708	430	4337		62.4	40.4	120				
2-Chlorophenol	2609	430	4337		60.2	43.4	120				
4-Chloro-3-methylphenol	2721	430	4337		62.7	47.2	120				
4-Nitrophenol	2362	2200	4337		54.5	30.3	120				
Acenaphthene	2786	430	4337		64.2	43.9	120				
N-Nitrosodi-n-propylamine	2801	430	4337		64.6	44.8	120				
Pentachlorophenol	BRL	2200	4337		44.2	40.4	120				
Phenol	2302	430	4337		53.1	40.2	120				
Pyrene	3022	430	4337		69.7	44.4	119				
Surr: 2,4,6-Tribromophenol	3185	0	4337		73.4	48.2	133				
Surr: 2-Fluorobiphenyl	1487	0	2169		68.6	50.2	120				
Surr: 2-Fluorophenol	2184	0	4337		50.4	41.6	120				
Surr: 4-Terphenyl-d14	1548	0	2169		71.4	52.1	122				
Surr: Nitrobenzene-d5	1205	0	2169		55.6	41.4	120				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259196

Sample ID: **1804E94-001BMS** Client ID:
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D**
Units: **ug/Kg-dry** Prep Date: **04/17/2018** Run No: **368097**
BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148510**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	2389	0	4337		55.1	45.7	120				

Sample ID: **1804E94-001BMSD** Client ID:
SampleType: **MSD** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D**
Units: **ug/Kg-dry** Prep Date: **04/17/2018** Run No: **368097**
BatchID: **259196** Analysis Date: **04/17/2018** Seq No: **8148667**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	2450	430	4337		56.5	40.4	120	2708	10.0	33.9	
2-Chlorophenol	2253	430	4337		52.0	43.4	120	2609	14.6	31.1	
4-Chloro-3-methylphenol	2515	430	4337		58.0	47.2	120	2721	7.85	36.7	
4-Nitrophenol	BRL	2200	4337		49.5	30.3	120	2362	0	38.9	
Acenaphthene	2587	430	4337		59.7	43.9	120	2786	7.39	32.7	
N-Nitrosodi-n-propylamine	2530	430	4337		58.3	44.8	120	2801	10.2	34.6	
Pentachlorophenol	BRL	2200	4337		40.2	40.4	120	1919	0	27.6	S
Phenol	2035	430	4337		46.9	40.2	120	2302	12.3	26	
Pyrene	2728	430	4337		62.9	44.4	119	3022	10.2	37.2	
Surr: 2,4,6-Tribromophenol	2876	0	4337		66.3	48.2	133	3185	0	0	
Surr: 2-Fluorobiphenyl	1358	0	2169		62.6	50.2	120	1487	0	0	
Surr: 2-Fluorophenol	1821	0	4337		42.0	41.6	120	2184	0	0	
Surr: 4-Terphenyl-d14	1391	0	2169		64.1	52.1	122	1548	0	0	
Surr: Nitrobenzene-d5	1054	0	2169		48.6	41.4	120	1205	0	0	
Surr: Phenol-d5	2076	0	4337		47.9	45.7	120	2389	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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259237

Sample ID: **MB-259237**	Client ID:			Units: **mg/Kg**	Prep Date: **04/17/2018**	Run No: **368253**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **259237**	Analysis Date: **04/19/2018**	Seq No: **8152749**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-259237**	Client ID:			Units: **mg/Kg**	Prep Date: **04/17/2018**	Run No: **368253**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **259237**	Analysis Date: **04/19/2018**	Seq No: **8152765**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3721	0.100	0.4000		93.0	80	120				

Sample ID: **1804G10-001CMS**	Client ID: **GP BORROW 1**			Units: **mg/Kg-dry**	Prep Date: **04/17/2018**	Run No: **368253**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **259237**	Analysis Date: **04/19/2018**	Seq No: **8152767**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4456	0.104	0.4154	0.05090	95.0	70	130				

Sample ID: **1804G10-001CMSD**	Client ID: **GP BORROW 1**			Units: **mg/Kg-dry**	Prep Date: **04/17/2018**	Run No: **368253**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **259237**	Analysis Date: **04/19/2018**	Seq No: **8152769**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4441	0.103	0.4120	0.05090	95.4	70	130	0.4456	0.324	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		

Client: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259325

Sample ID: **MB-259325** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368248**
SampleType: **MBLK** TestCode: **POLYCHLORINATED BIPHENYLS SW8082A** BatchID: **259325** Analysis Date: **04/18/2018** Seq No: **8152676**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Aroclor 1016	BRL	33									
Aroclor 1221	BRL	33									
Aroclor 1232	BRL	33									
Aroclor 1242	BRL	33									
Aroclor 1248	BRL	33									
Aroclor 1254	BRL	33									
Aroclor 1260	BRL	33									
Aroclor 1262	BRL	33									
Aroclor 1268	BRL	33									
Surr: Decachlorobiphenyl	15.28	0	16.67		91.7	45.6	131				
Surr: Tetrachloro-m-xylene	16.06	0	16.67		96.3	47.1	130				

Sample ID: **LCS-259325** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368248**
SampleType: **LCS** TestCode: **POLYCHLORINATED BIPHENYLS SW8082A** BatchID: **259325** Analysis Date: **04/18/2018** Seq No: **8152677**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Aroclor 1016	167.2	33	166.7		100	69.4	120				
Aroclor 1260	160.3	33	166.7		96.2	66.6	125				
Surr: Decachlorobiphenyl	15.92	0	16.67		95.5	45.6	131				
Surr: Tetrachloro-m-xylene	15.61	0	16.67		93.6	47.1	130				

Sample ID: **1804A91-002AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368248**
SampleType: **MS** TestCode: **POLYCHLORINATED BIPHENYLS SW8082A** BatchID: **259325** Analysis Date: **04/18/2018** Seq No: **8152679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Aroclor 1016	180.9	36	178.0		102	50.7	128				
Aroclor 1260	182.5	36	178.0		103	52.1	127				
Surr: Decachlorobiphenyl	17.33	0	17.81		97.3	45.6	131				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259325

Sample ID: **1804A91-002AMS**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **04/18/2018**	Run No: **368248**
SampleType: **MS**	TestCode: **POLYCHLORINATED BIPHENYLS SW8082A**			BatchID: **259325**	Analysis Date: **04/18/2018**	Seq No: **8152679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Tetrachloro-m-xylene	16.86	0	17.81		94.7	47.1	130				

Sample ID: **1804A91-002AMSD**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **04/18/2018**	Run No: **368248**
SampleType: **MSD**	TestCode: **POLYCHLORINATED BIPHENYLS SW8082A**			BatchID: **259325**	Analysis Date: **04/18/2018**	Seq No: **8152680**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Aroclor 1016	161.8	36	178.0		90.9	50.7	128	180.9	11.2	21.8	
Aroclor 1260	159.6	36	178.0		89.6	52.1	127	182.5	13.4	21.1	
Surr: Decachlorobiphenyl	16.34	0	17.81		91.8	45.6	131	17.33	0	0	
Surr: Tetrachloro-m-xylene	15.36	0	17.81		86.2	47.1	130	16.86	0	0	

Client: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259332

Sample ID: **MB-259332** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368320**
SampleType: **MBLK** TestCode: **CHLORINATED PESTICIDES, TCL SW8081B** BatchID: **259332** Analysis Date: **04/19/2018** Seq No: **8154639**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Toxaphene	BRL	170									
Surr: Decachlorobiphenyl	18.88	0	16.67		113	45	128				
Surr: Tetrachloro-m-xylene	15.92	0	16.67		95.5	46	120				

Sample ID: **MB-259332** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368342**
SampleType: **MBLK** TestCode: **CHLORINATED PESTICIDES, TCL SW8081B** BatchID: **259332** Analysis Date: **04/19/2018** Seq No: **8154693**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
4,4´-DDD	BRL	3.3									
4,4´-DDE	BRL	3.3									
4,4´-DDT	BRL	3.3									
Aldrin	BRL	1.7									
alpha-BHC	BRL	1.7									
alpha-Chlordane	BRL	1.7									
beta-BHC	BRL	1.7									
delta-BHC	BRL	1.7									
Dieldrin	BRL	3.3									
Endosulfan I	BRL	1.7									
Endosulfan II	BRL	3.3									
Endosulfan sulfate	BRL	3.3									
Endrin	BRL	3.3									
Endrin aldehyde	BRL	3.3									
Endrin ketone	BRL	3.3									
gamma-BHC	BRL	1.7									
gamma-Chlordane	BRL	1.7									
Heptachlor	BRL	1.7									
Heptachlor epoxide	BRL	1.7									
Methoxychlor	BRL	17									

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259332

Sample ID: **LCS-259332** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368320**
SampleType: **LCS** TestCode: **CHLORINATED PESTICIDES, TCL SW8081B** BatchID: **259332** Analysis Date: **04/19/2018** Seq No: **8154549**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
4,4´-DDT	31.23	3.3	33.33		93.7	69.4	124				
Aldrin	31.89	1.7	33.33		95.7	69.9	120				
Dieldrin	33.85	3.3	33.33		102	67.8	120				
Endrin	36.04	3.3	33.33		108	75.5	130				
gamma-BHC	34.84	1.7	33.33		105	68.2	118				
Heptachlor	33.97	1.7	33.33		102	61.8	121				
Surr: Decachlorobiphenyl	19.96	0	16.67		120	45	128				
Surr: Tetrachloro-m-xylene	16.75	0	16.67		100	46	120				

Sample ID: **1804C16-046AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368320**
SampleType: **MS** TestCode: **CHLORINATED PESTICIDES, TCL SW8081B** BatchID: **259332** Analysis Date: **04/19/2018** Seq No: **8154553**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
4,4´-DDT	36.79	4.1	40.88		90.0	42.2	125				
Aldrin	41.37	2.0	40.88		101	50	118				
Dieldrin	41.43	4.1	40.88		101	50.4	120				
Endrin	44.38	4.1	40.88		109	57	129				
gamma-BHC	45.21	2.0	40.88		111	50.3	120				
Heptachlor	44.10	2.0	40.88		108	50.2	119				
Surr: Decachlorobiphenyl	21.43	0	20.45		105	45	128				
Surr: Tetrachloro-m-xylene	21.23	0	20.45		104	46	120				

Sample ID: **1804C16-046AMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368320**
SampleType: **MSD** TestCode: **CHLORINATED PESTICIDES, TCL SW8081B** BatchID: **259332** Analysis Date: **04/19/2018** Seq No: **8154554**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
4,4´-DDT	33.80	4.1	40.88		82.7	42.2	125	36.79	8.46	24.1	
Aldrin	36.98	2.0	40.88		90.5	50	118	41.37	11.2	24	

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259332

Sample ID: **1804C16-046AMSD** Client ID:
SampleType: **MSD** TestCode: **CHLORINATED PESTICIDES, TCL SW8081B**
Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368320**
BatchID: **259332** Analysis Date: **04/19/2018** Seq No: **8154554**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Dieldrin	39.44	4.1	40.88		96.5	50.4	120	41.43	4.94	33.1	
Endrin	42.09	4.1	40.88		103	57	129	44.38	5.29	22.9	
gamma-BHC	42.19	2.0	40.88		103	50.3	120	45.21	6.90	25.3	
Heptachlor	40.06	2.0	40.88		98.0	50.2	119	44.10	9.61	26.3	
Surr: Decachlorobiphenyl	20.26	0	20.45		99.1	45	128	21.43	0	0	
Surr: Tetrachloro-m-xylene	19.21	0	20.45		93.9	46	120	21.23	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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259334

Sample ID: **MB-259334** Client ID: Units: **mg/Kg** Prep Date: **04/18/2018** Run No: **368278**
SampleType: **MBLK** TestCode: **APPENDIX IX METALS SW6010D** BatchID: **259334** Analysis Date: **04/18/2018** Seq No: **8153555**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Cobalt	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Selenium	BRL	5.00									
Silver	BRL	2.50									
Thallium	BRL	5.00									
Tin	BRL	5.00									
Vanadium	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-259334** Client ID: Units: **mg/Kg** Prep Date: **04/18/2018** Run No: **368278**
SampleType: **LCS** TestCode: **APPENDIX IX METALS SW6010D** BatchID: **259334** Analysis Date: **04/18/2018** Seq No: **8153559**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	49.42	5.00	50.00		98.8	80	120				
Arsenic	47.93	5.00	50.00		95.9	80	120				
Barium	48.63	5.00	50.00		97.3	80	120				
Beryllium	48.50	2.50	50.00		97.0	80	120				
Cadmium	47.73	2.50	50.00		95.5	80	120				
Chromium	49.20	2.50	50.00	0.02754	98.4	80	120				
Cobalt	48.28	2.50	50.00		96.6	80	120				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259334

Sample ID: **LCS-259334** Client ID: Units: **mg/Kg** Prep Date: **04/18/2018** Run No: **368278**
SampleType: **LCS** TestCode: **APPENDIX IX METALS SW6010D** BatchID: **259334** Analysis Date: **04/18/2018** Seq No: **8153559**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Copper	49.56	2.50	50.00		99.1	80	120				
Lead	47.66	5.00	50.00		95.3	80	120				
Nickel	47.90	5.00	50.00		95.8	80	120				
Selenium	47.81	5.00	50.00		95.6	80	120				
Silver	5.154	2.50	5.000		103	80	120				
Thallium	47.96	5.00	50.00		95.9	80	120				
Tin	49.25	5.00	50.00	0.8158	96.9	80	120				
Vanadium	49.59	5.00	50.00		99.2	80	120				
Zinc	46.81	5.00	50.00		93.6	80	120				

Sample ID: **1804F62-001AMS** Client ID: Units: **mg/Kg-dry** Prep Date: **04/18/2018** Run No: **368278**
SampleType: **MS** TestCode: **APPENDIX IX METALS SW6010D** BatchID: **259334** Analysis Date: **04/18/2018** Seq No: **8153561**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	26.08	4.30	43.02	0.9324	58.5	75	125				S
Arsenic	41.90	4.30	43.02		97.4	75	125				
Barium	255.2	4.30	43.02	459.4	-475	75	125				S
Beryllium	46.04	2.15	43.02	1.537	103	75	125				
Cadmium	45.30	2.15	43.02	0.3198	105	75	125				
Chromium	49.56	2.15	43.02	9.278	93.6	75	125				
Cobalt	60.25	2.15	43.02	22.79	87.1	75	125				
Copper	75.49	2.15	43.02	43.69	73.9	75	125				S
Lead	97.22	4.30	43.02	99.84	-6.09	75	125				S
Nickel	74.47	4.30	43.02	28.90	106	75	125				
Selenium	42.85	4.30	43.02	0.6490	98.1	75	125				
Silver	4.652	2.15	4.302	0.04937	107	75	125				
Thallium	49.34	4.30	43.02	3.361	107	75	125				
Tin	43.30	4.30	43.02	2.306	95.3	75	125				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259334

Sample ID: **1804F62-001AMS** Client ID:
SampleType: **MS** TestCode: **APPENDIX IX METALS** **SW6010D**
Units: **mg/Kg-dry** Prep Date: **04/18/2018** Run No: **368278**
BatchID: **259334** Analysis Date: **04/18/2018** Seq No: **8153561**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Vanadium	60.24	4.30	43.02	26.23	79.1	75	125				
Zinc	70.97	4.30	43.02	39.12	74.0	75	125				S

Sample ID: **1804F62-001AMSD** Client ID:
SampleType: **MSD** TestCode: **APPENDIX IX METALS** **SW6010D**
Units: **mg/Kg-dry** Prep Date: **04/18/2018** Run No: **368278**
BatchID: **259334** Analysis Date: **04/18/2018** Seq No: **8153562**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	23.16	4.30	43.01	0.9324	51.7	75	125	26.08	11.9	20	S
Arsenic	42.08	4.30	43.01		97.8	75	125	41.90	0.428	20	
Barium	278.2	4.30	43.01	459.4	-421	75	125	255.2	8.61	20	S
Beryllium	46.49	2.15	43.01	1.537	105	75	125	46.04	0.965	20	
Cadmium	46.01	2.15	43.01	0.3198	106	75	125	45.30	1.56	20	
Chromium	53.82	2.15	43.01	9.278	104	75	125	49.56	8.25	20	
Cobalt	63.10	2.15	43.01	22.79	93.7	75	125	60.25	4.62	20	
Copper	84.43	2.15	43.01	43.69	94.7	75	125	75.49	11.2	20	
Lead	105.8	4.30	43.01	99.84	13.8	75	125	97.22	8.42	20	S
Nickel	78.36	4.30	43.01	28.90	115	75	125	74.47	5.08	20	
Selenium	42.97	4.30	43.01	0.6490	98.4	75	125	42.85	0.270	20	
Silver	4.518	2.15	4.301	0.04937	104	75	125	4.652	2.91	20	
Thallium	53.89	4.30	43.01	3.361	117	75	125	49.34	8.82	20	
Tin	40.48	4.30	43.01	2.306	88.8	75	125	43.30	6.73	20	
Vanadium	66.67	4.30	43.01	26.23	94.0	75	125	60.24	10.1	20	
Zinc	82.02	4.30	43.01	39.12	99.7	75	125	70.97	14.5	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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259431

Sample ID: **MB-259431** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368221**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259431** Analysis Date: **04/18/2018** Seq No: **8151776**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	100									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	10									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259431

Sample ID: **MB-259431** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368221**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259431** Analysis Date: **04/18/2018** Seq No: **8151776**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	20									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	10									
Surr: 4-Bromofluorobenzene	48.75	0	50.00		97.5	65	133				
Surr: Dibromofluoromethane	48.84	0	50.00		97.7	75.8	119				
Surr: Toluene-d8	49.94	0	50.00		99.9	78.3	120				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259431

Sample ID: **LCS-259431** Client ID: Units: **ug/Kg** Prep Date: **04/18/2018** Run No: **368221**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259431** Analysis Date: **04/18/2018** Seq No: **8152169**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	48.66	5.0	50.00		97.3	64.8	138				
Benzene	48.89	5.0	50.00		97.8	70	126				
Chlorobenzene	51.66	5.0	50.00		103	70	124				
Toluene	50.99	5.0	50.00		102	70.4	127				
Trichloroethene	49.05	5.0	50.00		98.1	70.4	129				
Surr: 4-Bromofluorobenzene	48.19	0	50.00		96.4	65	133				
Surr: Dibromofluoromethane	48.11	0	50.00		96.2	75.8	119				
Surr: Toluene-d8	49.51	0	50.00		99.0	78.3	120				

Sample ID: **1804G10-001AMS** Client ID: **GP BORROW 1** Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368221**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259431** Analysis Date: **04/18/2018** Seq No: **8152173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	60.99	5.8	57.56		106	58.3	138				
Benzene	58.17	5.8	57.56		101	66.2	127				
Chlorobenzene	61.58	5.8	57.56		107	66	124				
Toluene	60.19	5.8	57.56		105	67.4	127				
Trichloroethene	59.47	5.8	57.56		103	64.9	127				
Surr: 4-Bromofluorobenzene	54.25	0	57.56		94.2	65	133				
Surr: Dibromofluoromethane	55.65	0	57.56		96.7	75.8	119				
Surr: Toluene-d8	56.91	0	57.56		98.9	78.3	120				

Sample ID: **1804G10-001AMSD** Client ID: **GP BORROW 1** Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368221**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259431** Analysis Date: **04/18/2018** Seq No: **8152174**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	56.82	5.8	57.56		98.7	58.3	138	60.99	7.09	20.2	
Benzene	55.71	5.8	57.56		96.8	66.2	127	58.17	4.33	18.6	

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259431

Sample ID: **1804G10-001AMSD** Client ID: **GP BORROW 1** Units: **ug/Kg-dry** Prep Date: **04/18/2018** Run No: **368221**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259431** Analysis Date: **04/18/2018** Seq No: **8152174**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	58.52	5.8	57.56		102	66	124	61.58	5.10	20	
Toluene	57.54	5.8	57.56		100.0	67.4	127	60.19	4.50	20	
Trichloroethene	56.14	5.8	57.56		97.5	64.9	127	59.47	5.78	20	
Surr: 4-Bromofluorobenzene	55.93	0	57.56		97.2	65	133	54.25	0	0	
Surr: Dibromofluoromethane	55.51	0	57.56		96.4	75.8	119	55.65	0	0	
Surr: Toluene-d8	57.45	0	57.56		99.8	78.3	120	56.91	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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259434

Sample ID: **MB-259434** Client ID: Units: **ug/L** Prep Date: **04/19/2018** Run No: **368266**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259434** Analysis Date: **04/19/2018** Seq No: **8152914**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259434

Sample ID: **MB-259434** Client ID: Units: **ug/L** Prep Date: **04/19/2018** Run No: **368266**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259434** Analysis Date: **04/19/2018** Seq No: **8152914**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	47.75	0	50.00		95.5	68	127				
Surr: Dibromofluoromethane	50.07	0	50.00		100	84.4	122				
Surr: Toluene-d8	49.33	0	50.00		98.7	80.1	116				

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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259434

Sample ID: **LCS-259434** Client ID: Units: **ug/L** Prep Date: **04/19/2018** Run No: **368266**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259434** Analysis Date: **04/19/2018** Seq No: **8152920**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	42.44	5.0	50.00		84.9	69	136				
Benzene	41.48	5.0	50.00		83.0	73.7	126				
Chlorobenzene	43.17	5.0	50.00		86.3	73.5	124				
Toluene	43.06	5.0	50.00		86.1	76.8	125				
Trichloroethene	43.73	5.0	50.00		87.5	70.9	124				
Surr: 4-Bromofluorobenzene	47.32	0	50.00		94.6	68	127				
Surr: Dibromofluoromethane	50.16	0	50.00		100	84.4	122				
Surr: Toluene-d8	49.76	0	50.00		99.5	80.1	116				

Sample ID: **1804G91-001AMS** Client ID: Units: **ug/L** Prep Date: **04/19/2018** Run No: **368266**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259434** Analysis Date: **04/19/2018** Seq No: **8154894**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	48.35	5.0	50.00		96.7	65.7	143				
Benzene	48.06	5.0	50.00		96.1	66.1	137				
Chlorobenzene	50.51	5.0	50.00	0.9700	99.1	70.9	132				
Toluene	49.44	5.0	50.00		98.9	63.8	141				
Trichloroethene	50.91	5.0	50.00		102	70.6	128				
Surr: 4-Bromofluorobenzene	46.84	0	50.00		93.7	68	127				
Surr: Dibromofluoromethane	49.23	0	50.00		98.5	84.4	122				
Surr: Toluene-d8	49.12	0	50.00		98.2	80.1	116				

Sample ID: **1804G91-001AMSD** Client ID: Units: **ug/L** Prep Date: **04/19/2018** Run No: **368266**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **259434** Analysis Date: **04/19/2018** Seq No: **8154895**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	49.24	5.0	50.00		98.5	65.7	143	48.35	1.82	17.7	
Benzene	49.46	5.0	50.00		98.9	66.1	137	48.06	2.87	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: Contour Engineering, LLC
Project Name UPC
Workorder: 1804G10

ANALYTICAL QC SUMMARY REPORT

BatchID: 259434

Sample ID: **1804G91-001AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/L** Prep Date: **04/19/2018** Run No: **368266**
BatchID: **259434** Analysis Date: **04/19/2018** Seq No: **8154895**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	51.71	5.0	50.00	0.9700	101	70.9	132	50.51	2.35	20	
Toluene	50.82	5.0	50.00		102	63.8	141	49.44	2.75	20	
Trichloroethene	51.49	5.0	50.00		103	70.6	128	50.91	1.13	20	
Surr: 4-Bromofluorobenzene	47.62	0	50.00		95.2	68	127	46.84	0	0	
Surr: Dibromofluoromethane	47.18	0	50.00		94.4	84.4	122	49.23	0	0	
Surr: Toluene-d8	48.31	0	50.00		96.6	80.1	116	49.12	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		

TECHNICAL MEMORANDUM

Background Threshold Value Calculations for the Proposed Borrow Source – Grant Park Parking Deck

Prepared for:	Astra Rohadfox JV
Prepared by:	Contour Engineering, LLC
Date:	May 25, 2018

Introduction

The purpose of this technical memorandum is to present the background information to support the calculations performed to establish upper limits/background threshold levels (BTVs) for the Grant Park Parking Deck Proposed Borrow Source for the Upper Proctor Creek – Rodney Cook Senior Park project.

The Grant Park Parking Deck construction project is in progress and as a result of grading activities and excess soil, a stockpile of soil has been created at the construction site. On April 17, 2018, Contour Engineering, LLC (Contour) personnel mobilized to the Grant Park Parking Deck construction site to collect two grab soil samples from the stockpiled soil to evaluate its environmental suitability for reuse at the Upper Proctor Creek – Rodney Cook Senior Park project.

The two grab samples were analyzed using U.S. Environmental Protection Agency (EPA) Method 6010D and the results of the two soil sample analyses revealed thallium in excess of the Hazardous Site Response Act (HSRA) Type 1 Risk Reduction Standard (RRS) for residential use. As a result, Contour personnel remobilized to the Grant Park Parking Deck construction site to collect 15 additional grab soil samples from the stockpiled soil for thallium analysis to establish upper limits/ BTVs using the United States Environmental protection Agency (EPA) ProUCL software.

Review of the 15 additional grab soil sample results indicated lower concentrations of thallium including concentrations below the laboratory reporting limit. As such, Contour requested the laboratory to re-analyze the two initial grab samples that were collected on April 17, 2018 by EPA Method 6020B. The results of the re-analysis indicated thallium was below the laboratory reporting limit. The initial analysis of thallium by EPA Method 6010D resulted in concentrations reported near the laboratory reporting limit and therefore are considered false positive results when compared to the results of the EPA Method 6020B analysis, which utilizes a much lower reporting limit.

The statistical software product ProUCL 5.1.002, available from the EPA's Site Characterization and Monitoring Technical Support Center website, was used to calculate the upper limits/BTVs using the data set collected in April and May 2018. The ProUCL software is used to compute rigorous statistics to help decision makers and project teams in making correct decisions at sites that are cost-effective and protective of human health and the environment. The ProUCL software is based upon the philosophy that rigorous statistical methods can be used to compute correct estimates of population parameters and decision making statistics. ProUCL computes decision statistics using several parametric and nonparametric methods covering a wide-range of data variability, distribution, skewness, and sample size. The suggestions made in ProUCL are based upon the extensive experience of the developers in environmental statistical methods, published environmental literature, and procedures described in various EPA guidance documents.

Data Set Selection

In selecting data representative of background conditions, only samples collected from the stockpiled native residuum soils were considered. The grab samples were collected from 17 locations across the soil stockpile and analyzed for thallium by EPA Method 6020B. Using the results of the 17 grab samples, the BTVs for thallium were calculated. The laboratory reports are provided in Attachment A and the full sample data set is presented in Table 1.

Outlier Test

Prior to selecting the final data set for calculating the BTVs, the full sample data set was evaluated for outliers. The evaluation considered uncensored variables, positive detections only (excluded non-detects), and replacing non-detects with ½ the detection limit. Outliers are measurements (usually larger or smaller than the majority of the data values in a sample) that are not representative of the population from which they were drawn. The presence of outliers is inevitable in data sets originating from environmental and various other applications and distorts most statistics if used in any calculations. The two classical outlier tests that are available in the ProUCL software are the Dixon and Rosner tests. These tests can be used on data sets with and without non-detect observations.

To evaluate the full sample data set, the Dixon Outlier Test was used due to the size of the data set (i.e., less than/equal to 25 data points). This test identifies outliers or extreme values of a data distribution. In environmental data sets, outliers found in the right tail, potentially representing impacted locations, are of interest. This test assumes that the data set without the suspected outliers is normally distributed.

The full sample data set consisting of 17 data points was assessed for outliers. In the initial test, the results indicated no potential outliers for thallium were identified. The outlier test results are presented in Attachment B.

Background Threshold Values

In background evaluation studies, site-specific background level constituent concentrations are needed to compare site concentrations with background level concentrations, also known as BTVs. The BTVs are estimated, based upon sampled data collected from reference areas and/or unimpacted site-specific background areas. BTVs can be derived by using upper limits such as the upper prediction limit (UPL), upper tolerance limit (UTL), or the upper simultaneous limit (USL). The UPL is the upper boundary of a prediction interval for an independent future sample. The UTL is a confidence limit on a percentile of the data set rather than a confidence limit on the mean i.e., upper confidence limit [UCL]). For example, a 95 percent UTL for 95 percent coverage represents the value below which 95 percent of the data set values are expected to fall with 95 percent confidence. In other words, a 95 percent UTL with coverage coefficient 95 percent represents a 95 percent UCL for the 95th percentile. The USL is the upper boundary of the largest sample result; however, USLs should only be considered when a data set represents a background data set of samples collected from clean unimpacted locations.

Upper limit/BTV calculations were performed on the 17 native residuum soil samples for thallium that were screened for outliers. The upper limit/BTV calculations performed on the screened 17 data point set considered the uncensored full data and the data set with non-detects. The ProUCL outputs for the upper limit/BTV calculations are included in Attachment C.

The thallium data were evaluated in ProUCL for Goodness-of-Fit (GOF) prior to analyzing. Based on the results of the GOF test, ProUCL concluded that the uncensored full data set is not normal, gamma distributed, lognormal distributed, and does not follow a discernable distribution. However, the GOF test for the data set with non-detects concluded that the data set is normal, gamma distributed, lognormal distributed, and follows a discernable distribution. Therefore based on the various calculations performed, ProUCL calculated the following nonparametric upper limits for BTVs using the data set with non-detects:

- 95% UPL = 1.18 mg/kg;
- 95% KM Chebyshev UPL = 0.539 mg/kg;
- 95% USL = 1.18 mg/kg;
- 95% UTL with 95% Coverage = 1.18 mg/kg.

The USL tends to provide a conservative estimate of the BTV when a sample set exceeds 20 data points and a balance between false positives and false negatives provided the data represents a background data set. Although the data set is less than 20 data points, the 95% UPL and the 95% UTL with 95% coverage also calculates the same value. Therefore because the data were screened and potential outliers were removed from the data set and because the data were collected from native residuum soils, the calculated USL, 95% UPL, and the 95% UTL with 95% coverage is appropriate for use as the BTV. Therefore, Contour recommends the following calculated BTV for the Grant Park Parking Deck Proposed Borrow Source:

- Thallium = 1.18 mg/kg.

Conclusion

The thallium detections by EPA Method 6010D are considered false positives as compared to the 6020B analysis of the same sample. Therefore, the thallium detections in the proposed borrow soil are below the Type 1 RRS and should be approved for use as borrow on the Upper Proctor Creek site.

Tables

Upper Proctor Creek - Rodney Cook Senior Park
Vine Street Properties
Atlanta, Fulton County, Georgia

Table 1. Thallium Full Sample Data Set
Proposed Borrow Source - Grant Park Parking Deck
Confederate Street and Boulevard
Atlanta, Fulton County, Georgia

Sample Location	Date Sampled	Sample Depth (ft)	Thallium (mg/kg)
GP Borrow -1	4/17/2018	Stockpile	<0.626
GP Borrow-2	4/17/2018	Stockpile	<0.515
GPB-1	5/3/2018	Stockpile	<0.935
GPB-2	5/3/2018	Stockpile	0.408
GPB-3	5/3/2018	Stockpile	<0.458
GPB-4	5/3/2018	Stockpile	0.419
GPB-5	5/3/2018	Stockpile	0.445
GPB-6	5/3/2018	Stockpile	<0.498
GPB-7	5/3/2018	Stockpile	0.469
GPB-8	5/3/2018	Stockpile	0.440
GPB-9	5/3/2018	Stockpile	<1.040
GPB-10	5/3/2018	Stockpile	<0.476
GPB-11	5/3/2018	Stockpile	0.482
GPB-12	5/3/2018	Stockpile	0.412
GPB-13	5/3/2018	Stockpile	0.443
GPB-14	5/3/2018	Stockpile	<1.180
GPB-15	5/3/2018	Stockpile	0.432
HSRA NC			10/BG
Type 1 RRS			2

Notes:
ft = feet
mg/kg = milligrams per kilogram
HSRA NC = Hazardous Site Response act Notification Concentration
RRS = Risk Reduction Standard (GAC 391-3-19-.07)
BG = background

Attachment A
Laboratory Reports

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

May 15, 2018

Jeanette Hamm
Contour Engineering, LLC

1955 Vaugh Rd.
Kennesaw GA 30144

RE: Upper Proctor Creek

Dear Jeanette Hamm: Order No: 1805415

Analytical Environmental Services, Inc. received 15 samples on 5/3/2018 3:32:00 PM 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's accreditations are as follows:
-NELAP/State of Florida Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, Air & Emissions Volatile Organics, and Drinking Water Microbiology & Metals, effective 07/01/17-06/30/18.
State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-NELAP/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 11/01/19.
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.

Sincerely,

Jessica Shilling

Jessica Shilling

Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3080 Presidential Drive Atlanta, GA 30340-3704
Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

AES

CHAIN OF CUSTODY

Work Order: 1805415

Date: 5/3/18 Page 1 of 2

COMPANY: Contour Engineering, LLC

ADDRESS: 1955 Vaughn Road Ste 101 Kennesaw, Ga 30144

PHONE: 770-794-0266

EMAIL:

SAMPLED BY: M. Sprewell

SIGNATURE:

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	PRESERVATION (see codes)	REMARKS	Number of Containers
1	GPB-1	5/3/18	0815	X		SO	X	Standard TAT	1
2	GPB-2		0817	X					1
3	GPB-3		0819	X					1
4	GPB-4		0821	X					1
5	GPB-5		0823	X					1
6	GPB-6		0825	X					1
7	GPB-7		0827	X					1
8	GPB-8		0829	X					1
9	GPB-9		0831	X					1
10	GPB-10		0833	X					1
11	GPB-11		0835	X					1
12	GPB-12		0837	X					1
13	GPB-13		0839	X					1
14	GPB-14		0841	X					1

ANALYSIS REQUESTED: Thallium 6020

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1.	5/3/18 1334	1.	5-4-18 1150
2.	5-4-18 3:32	2. Essence Moore	5/3/18 3:32
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT: / / VIA:

IN: / / VIA:

client FedEx UPS US mail Courier Greyhound

other: _____

PROJECT INFORMATION

PROJECT NAME: Upper Proctor Creek

PROJECT #: E17AGI101

SITE ADDRESS: Vine Street

SEND REPORT TO: JHAMM; MSPREWELL

INVOICE TO:

(IF DIFFERENT FROM ABOVE)

QUOTE #: _____ PO#: _____

RECEIPT

Total # of Containers: 14

Turnaround Time (TAT) Request

- [x] Standard 5 Business Days
- [ ] ~~2 Business Day Rush~~ MS 5/3/18
- [ ] Next Business Day Rush
- [ ] Same-Day Rush (auth req.)
- [ ] Other _____

STATE PROGRAM (if any): _____

E-mail? ☐ Fax? ☐

DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arangements are made.

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

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.
3080 Presidential Drive Atlanta, GA 30340-3704
Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1805415

Date: 5/3/18 Page 2 of 2

COMPANY: Contour Engineering, LLC

ADDRESS:

PHONE: 770-794-0266

EMAIL:

SAMPLED BY: M. Sprewell

SIGNATURE:

ANALYSIS REQUESTED

Thallium (6020)

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	PRESERVATION (see codes)	REMARKS	Number of Containers
1	GPB-15	5/3/18	0843	X		SO	X	Standard TAT	1
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Matt Sprewell	5/3/18 1357	1. [illegible]	5-3-18 1334
2. [illegible]	5-3-18 1534	2. Essence Moore	5/3/18 3:32
3.		3.	

PROJECT INFORMATION

PROJECT NAME: Upper Proctor Creek

PROJECT #: E17AGI:01

SITE ADDRESS: Vine St.

SEND REPORT TO: JHAMM; MSPREWELL

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 1

Turnaround Time (TAT) Request

- [x] Standard 5 Business Days
- [x] ~~2 Business Day Rush~~ MS 5/3/18
- [ ] Next Business Day Rush
- [ ] Same-Day Rush (auth req.)
- [ ] Other

STATE PROGRAM (if any):

E-mail? [ ] Fax? [ ]

DATA PACKAGE: I ○ II ○ III ○ IV ○

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT: / / VIA:

IN: / / VIA:

client FedEx UPS US mail courier Greyhound

other:

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arangements are made.

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

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

Client: Contour Engineering, LLC
Project: Upper Proctor Creek
Lab ID: 1805415

Case Narrative

Metals Analysis by Method 6020B:

Due to sample matrix, samples 1805415-001A, 003A, 006A, 009A, 010A, and 014A required dilution during preparation and/or analysis resulting in elevated reporting limits for Thallium.

Analytical Environmental Services, Inc **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-1
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:15:00 AM
Lab ID:	1805415-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B					**(SW3050B)**			
Thallium	BRL	935		ug/Kg-dry	260216	50	05/07/2018 14:39	NG
PERCENT MOISTURE D2216								
Percent Moisture	16.5	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-2
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:17:00 AM
Lab ID:	1805415-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	408	394		ug/Kg-dry	260216	20	05/07/2018 20:43	NG
PERCENT MOISTURE D2216								
Percent Moisture	17.0	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-3
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:19:00 AM
Lab ID:	1805415-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	BRL	458		ug/Kg-dry	260216	20	05/07/2018 20:45	NG
PERCENT MOISTURE D2216								
Percent Moisture	15.8	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-4
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:21:00 AM
Lab ID:	1805415-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	419	405		ug/Kg-dry	260216	20	05/07/2018 20:47	NG
PERCENT MOISTURE D2216								
Percent Moisture	15.4	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-5
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:23:00 AM
Lab ID:	1805415-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	445	358		ug/Kg-dry	260216	20	05/07/2018 20:49	NG
PERCENT MOISTURE D2216								
Percent Moisture	14.5	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-6
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:25:00 AM
Lab ID:	1805415-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	BRL	498		ug/Kg-dry	260216	20	05/07/2018 20:51	NG
PERCENT MOISTURE D2216								
Percent Moisture	15.5	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-7
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:27:00 AM
Lab ID:	1805415-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B					**(SW3050B)**			
Thallium	469	454		ug/Kg-dry	260216	20	05/07/2018 20:53	NG
PERCENT MOISTURE D2216								
Percent Moisture	15.7	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-8
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:29:00 AM
Lab ID:	1805415-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	440	432		ug/Kg-dry	260216	20	05/07/2018 20:55	NG
PERCENT MOISTURE D2216								
Percent Moisture	15.6	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-9
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:31:00 AM
Lab ID:	1805415-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	BRL	1040		ug/Kg-dry	260216	50	05/14/2018 14:10	NG
PERCENT MOISTURE D2216								
Percent Moisture	15.3	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-10
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:33:00 AM
Lab ID:	1805415-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	BRL	476		ug/Kg-dry	260216	20	05/07/2018 20:59	NG
PERCENT MOISTURE D2216								
Percent Moisture	15.1	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-11
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:35:00 AM
Lab ID:	1805415-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	482	379		ug/Kg-dry	260216	20	05/07/2018 21:01	NG
PERCENT MOISTURE D2216								
Percent Moisture	13.0	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-12
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:37:00 AM
Lab ID:	1805415-012	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	412	369		ug/Kg-dry	260216	20	05/07/2018 21:09	NG
PERCENT MOISTURE D2216								
Percent Moisture	18.1	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-13
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:39:00 AM
Lab ID:	1805415-013	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	443	435		ug/Kg-dry	260216	20	05/07/2018 21:11	NG
PERCENT MOISTURE D2216								
Percent Moisture	16.0	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-14
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:41:00 AM
Lab ID:	1805415-014	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	BRL	1180		ug/Kg-dry	260216	50	05/14/2018 14:14	NG
PERCENT MOISTURE D2216								
Percent Moisture	14.5	0		wt%	R369558	1	05/07/2018 09:02	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 **Date:** 15-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GPB-15
Project Name:	Upper Proctor Creek	**Collection Date:**	5/3/2018 8:43:00 AM
Lab ID:	1805415-015	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	432	337		ug/Kg-dry	260216	20	05/07/2018 21:15	NG
PERCENT MOISTURE D2216								
Percent Moisture	17.5	0		wt%	R369558	1	05/07/2018 09:02	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

Clear Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **Contour Engineering, LLC** AES Work Order Number: **1805415**

2. Carrier: FedEx ☐ UPS ☐ USPS ☐ Client ☐ Courier ■ Other _____

		Yes	No	N/A	Details	Comments
3.	Shipping container/cooler received in good condition?	●	○	○	damaged ☐ leaking ☐ other ☐	
4.	Custody seals present on shipping container?	○	●	○		
5.	Custody seals intact on shipping container?	○	○	●		
6.	Temperature blanks present?	○	●	○		
7.	Cooler temperature(s) within limits of 0-6°C? [See item 13 and 14 for temperature recordings.]	●	○	○	Cooling initiated for recently collected samples / ice present ☐	
8.	Chain of Custody (COC) present?	●	○	○		
9.	Chain of Custody signed, dated, and timed when relinquished and received?	●	○	○		
10.	Sampler name and/or signature on COC?	●	○	○		
11.	Were all samples received within holding time?	●	○	○		
12.	TAT marked on the COC?	●	○	○	If no TAT indicated, proceeded with standard TAT per Terms & Conditions. ☐	

13. Cooler 1 Temperature 1.3 °C Cooler 2 Temperature _____ °C Cooler 3 Temperature _____ °C Cooler 4 Temperature _____ °C

14. Cooler 5 Temperature _____ °C Cooler 6 Temperature _____ °C Cooler 7 Temperature _____ °C Cooler 8 Temperature _____ °C

15. Comments: _____

I certify that I have completed sections 1-15 (dated initials). AJJ 5/3/18

		Yes	No	N/A	Details	Comments
16.	Were sample containers intact upon receipt?	●	○	○		
17.	Custody seals present on sample containers?	○	●	○		
18.	Custody seals intact on sample containers?	○	○	●		
19.	Do sample container labels match the COC?	●	○	○	incomplete info ☐ illegible ☐ no label ☐ other ☐	
20.	Are analyses requested indicated on the COC?	●	○	○		
21.	Were all of the samples listed on the COC received?	●	○	○	samples received but not listed on COC ☐ samples listed on COC not received ☐	
22.	Was the sample collection date/time noted?	●	○	○		
23.	Did we receive sufficient sample volume for indicated analyses?	●	○	○		
24.	Were samples received in appropriate containers?	●	○	○		
25.	Were VOA samples received without headspace (< 1/4" bubble)?	○	○	●		
26.	Were trip blanks submitted?	○	○	●	listed on COC ☐ not listed on COC ☐	

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). ES 5/3/18

This section only applies to samples where pH can be checked at Sample Receipt.

		Yes	No	N/A	Details	Comments
28.	Have containers needing chemical preservation been checked? *	○	○	●		
29.	Containers meet preservation guidelines?	○	○	●		
30.	Was pH adjusted at Sample Receipt?	○	○	●		

* Note: Certain analyses require chemical preservation but must be checked in the laboratory and not upon Sample Receipt such as Coliforms, VOCs and Oil & Grease/TPH.

I certify that I have completed sections 28-30 (dated initials). ES 5/3/18

Client: Contour Engineering, LLC
Project Name: Upper Proctor Creek
Workorder: 1805415

ANALYTICAL QC SUMMARY REPORT

BatchID: 260216

Sample ID: **MB-260216**	Client ID:				Units: **ug/Kg**		Prep Date: **05/07/2018**		Run No: **369656**
SampleType: **MBLK**	TestCode: **Metals by ICP/MS SW6020B**				BatchID: **260216**		Analysis Date: **05/07/2018**		Seq No: **8189842**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	BRL	50.0									

Sample ID: **LCS-260216**	Client ID:				Units: **ug/Kg**		Prep Date: **05/07/2018**		Run No: **369656**
SampleType: **LCS**	TestCode: **Metals by ICP/MS SW6020B**				BatchID: **260216**		Analysis Date: **05/07/2018**		Seq No: **8189843**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	4659	50.0	5000		93.2	80	120				

Sample ID: **1805415-001AMS**	Client ID: **GPB-1**				Units: **ug/Kg-dry**		Prep Date: **05/07/2018**		Run No: **369656**
SampleType: **MS**	TestCode: **Metals by ICP/MS SW6020B**				BatchID: **260216**		Analysis Date: **05/07/2018**		Seq No: **8189853**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	3846	1870	3734		103	75	125				

Sample ID: **1805415-001AMSD**	Client ID: **GPB-1**				Units: **ug/Kg-dry**		Prep Date: **05/07/2018**		Run No: **369656**
SampleType: **MSD**	TestCode: **Metals by ICP/MS SW6020B**				BatchID: **260216**		Analysis Date: **05/07/2018**		Seq No: **8189854**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	3821	1870	3736		102	75	125	3846	0.670	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		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

May 23, 2018

Matt Sprewell
Contour Engineering, LLC

1955 Vaugh Rd.
Kennesaw GA 30144

RE: UPC

Dear Matt Sprewell: Order No: 1805L04

Analytical Environmental Services, Inc. received 2 samples on 5/18/2018 12:00:00 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's accreditations are as follows:
-NELAP/State of Florida Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, Air & Emissions Volatile Organics, and Drinking Water Microbiology & Metals, effective 07/01/17-06/30/18.
State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms/ E. coli, effective 04/25/17-04/24/20.
-NELAP/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 11/01/19.
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.

Sincerely,

Jessica Shilling

Jessica Shilling

Project Manager

1805L04

Work Order: ~~1804G10~~ KF 1123

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3080 Presidential Drive Atlanta, GA 30340-3704
Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

CHAIN OF CUSTODY

Date: 4/17/18 Page 1 of 1

COMPANY: Contour Engineering, LLC	ADDRESS: 1955 Vaughn Rd. Ste 101 Kennesaw, Ga 30144
PHONE: 770.794.0266	EMAIL:
SAMPLED BY: M. Sprewell	SIGNATURE:

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	ANALYSIS REQUESTED: VOC's 8260	SVOCs 8270	Total Metals Appendix IX 6010	PCB's 8082	Pesticides 8081	Herbicides 8151	PRESERVATION (see codes)	REMARKS	Number of Containers
1	GP Borrow 1	4/17/18	1015	X		SO	X	X	X	X	X	X			6
2	GP Borrow 2	4/17/18	1018	X		SO	X	X	X	X	X	X			6
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Matt Sprewell	4/17/18 1457	1. Monique Abraham	4/17/18 2:57pm
2.		2.	
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
(client) FedEx UPS US mail courier Greyhound
other: _____

PROJECT INFORMATION
PROJECT NAME: UPC
PROJECT #: E17AG1:01
SITE ADDRESS: Vine St.
SEND REPORT TO:
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #: _____ PO#: _____

RECEIPT
Total # of Containers: 12

Turnaround Time (TAT) 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? ☐ Fax? ☐
DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arangements are made.

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

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: 23-May-18

Client: Contour Engineering, LLC
Project: UPC
Lab ID: 1805L04

Case Narrative

Per Jeanette Hamm via email 5/18/2018 5:53pm, samples "GP Borrow 1" and "GP Borrow 2" were analyzed for Thallium by method 6020 at a three day turnaround.

Analytical Environmental Services, Inc **Date:** 23-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 1
Lab Order	1805L04	**Tag Number:**	
Project Name:	UPC	**Collection Date:**	4/17/2018 10:15:00 AM
Lab ID:	1805L04-001A	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B					**(SW3050B)**			
Thallium	BRL	626		ug/Kg-dry	260984	50	05/21/2018 15:37	DP
PERCENT MOISTURE D2216								
Percent Moisture	19.7	0		wt%	R371079	1	05/23/2018 16:00	AK

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 **Date:** 23-May-18

Client:	Contour Engineering, LLC	**Client Sample ID:**	GP BORROW 2
Lab Order	1805L04	**Tag Number:**	
Project Name:	UPC	**Collection Date:**	4/17/2018 10:18:00 AM
Lab ID:	1805L04-002A	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Metals by ICP/MS SW6020B				**(SW3050B)**				
Thallium	BRL	515		ug/Kg-dry	261015	50	05/23/2018 14:46	DP
PERCENT MOISTURE D2216								
Percent Moisture	15.6	0		wt%	R371079	1	05/23/2018 15:00	AK

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

Clear Save as

ANALYTICAL ENVIRONMENTAL SERVICES, INC. AES

SAMPLE/COOLER RECEIPT CHECKLIST

1. Client Name: **Contour Engineering, LLC** AES Work Order Number: **1805L04**

2. Carrier: FedEx ☐ UPS ☐ USPS ☐ Client ■ Courier ☐ Other _____

		Yes	No	N/A	Details	Comments
3.	Shipping container/cooler received in good condition?	●	○	○	damaged ☐ leaking ☐ other ☐	
4.	Custody seals present on shipping container?	○	●	○		
5.	Custody seals intact on shipping container?	○	○	●		
6.	Temperature blanks present?	●	○	○		
7.	Cooler temperature(s) within limits of 0-6°C? [See item 13 and 14 for temperature recordings.]	●	○	○	Cooling initiated for recently collected samples / ice present ☐	
8.	Chain of Custody (COC) present?	●	○	○		
9.	Chain of Custody signed, dated, and timed when relinquished and received?	●	○	○		
10.	Sampler name and/or signature on COC?	●	○	○		
11.	Were all samples received within holding time?	●	○	○		
12.	TAT marked on the COC?	●	○	○	If no TAT indicated, proceeded with standard TAT per Terms & Conditions. ☐	

13. Cooler 1 Temperature 4.6 °C Cooler 2 Temperature _____ °C Cooler 3 Temperature _____ °C Cooler 4 Temperature _____ °C

14. Cooler 5 Temperature _____ °C Cooler 6 Temperature _____ °C Cooler 7 Temperature _____ °C Cooler 8 Temperature _____ °C

15. Comments: _____

I certify that I have completed sections 1-15 (dated initials). AJJ 4/17/18

		Yes	No	N/A	Details	Comments
16.	Were sample containers intact upon receipt?	●	○	○		
17.	Custody seals present on sample containers?	○	●	○		
18.	Custody seals intact on sample containers?	○	○	●		
19.	Do sample container labels match the COC?	●	○	○	incomplete info ☐ illegible ☐ no label ☐ other ☐	
20.	Are analyses requested indicated on the COC?	●	○	○		
21.	Were all of the samples listed on the COC received?	●	○	○	samples received but not listed on COC ☐ samples listed on COC not received ☐	
22.	Was the sample collection date/time noted?	●	○	○		
23.	Did we receive sufficient sample volume for indicated analyses?	●	○	○		
24.	Were samples received in appropriate containers?	●	○	○		
25.	Were VOA samples received without headspace (< 1/4" bubble)?	●	○	○		
26.	Were trip blanks submitted?	●	○	○	listed on COC ☐ not listed on COC ■	

27. Comments: _____

I certify that I have completed sections 16-27 (dated initials). AJJ 4/17/18

This section only applies to samples where pH can be checked at Sample Receipt.

		Yes	No	N/A	Details	Comments
28.	Have containers needing chemical preservation been checked? *	○	○	●		
29.	Containers meet preservation guidelines?	○	○	●		
30.	Was pH adjusted at Sample Receipt?	○	○	●		

* Note: Certain analyses require chemical preservation but must be checked in the laboratory and not upon Sample Receipt such as Coliforms, VOCs and Oil & Grease/TPH.

I certify that I have completed sections 28-30 (dated initials). AJJ 4/17/18

Client: Contour Engineering, LLC
Project Name: UPC
Workorder: 1805L04

ANALYTICAL QC SUMMARY REPORT

BatchID: 260984

Sample ID: **MB-260984**	Client ID:			Units: **ug/Kg**	Prep Date: **05/21/2018**	Run No: **370850**
SampleType: **MBLK**	TestCode: **Metals by ICP/MS SW6020B**			BatchID: **260984**	Analysis Date: **05/21/2018**	Seq No: **8223830**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	BRL	50.0									

Sample ID: **LCS-260984**	Client ID:			Units: **ug/Kg**	Prep Date: **05/21/2018**	Run No: **370850**
SampleType: **LCS**	TestCode: **Metals by ICP/MS SW6020B**			BatchID: **260984**	Analysis Date: **05/21/2018**	Seq No: **8223831**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	5464	50.0	5000		109	80	120				

Sample ID: **1805L04-001AMS**	Client ID: **GP BORROW 1**			Units: **ug/Kg-dry**	Prep Date: **05/21/2018**	Run No: **370850**
SampleType: **MS**	TestCode: **Metals by ICP/MS SW6020B**			BatchID: **260984**	Analysis Date: **05/21/2018**	Seq No: **8223834**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	5231	2310	4620		113	75	125				

Sample ID: **1805L04-001AMSD**	Client ID: **GP BORROW 1**			Units: **ug/Kg-dry**	Prep Date: **05/21/2018**	Run No: **370850**
SampleType: **MSD**	TestCode: **Metals by ICP/MS SW6020B**			BatchID: **260984**	Analysis Date: **05/21/2018**	Seq No: **8223835**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	5234	2310	4617		113	75	125	5231	0.058	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: Contour Engineering, LLC
Project Name: UPC
Workorder: 1805L04

ANALYTICAL QC SUMMARY REPORT

BatchID: 261015

Sample ID: **MB-261015**	Client ID:					Units: **ug/Kg**		Prep Date: **05/21/2018**		Run No: **370970**	
SampleType: **MBLK**	TestCode: **Metals by ICP/MS SW6020B**					BatchID: **261015**		Analysis Date: **05/22/2018**		Seq No: **8227142**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	BRL	50.0									

Sample ID: **LCS-261015**	Client ID:					Units: **ug/Kg**		Prep Date: **05/21/2018**		Run No: **370970**	
SampleType: **LCS**	TestCode: **Metals by ICP/MS SW6020B**					BatchID: **261015**		Analysis Date: **05/22/2018**		Seq No: **8227143**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	5197	50.0	5000		104	80	120				

Sample ID: **1805L77-006BMS**	Client ID:					Units: **ug/Kg-dry**		Prep Date: **05/21/2018**		Run No: **370970**	
SampleType: **MS**	TestCode: **Metals by ICP/MS SW6020B**					BatchID: **261015**		Analysis Date: **05/22/2018**		Seq No: **8227145**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	5309	1000	4999		106	75	125				

Sample ID: **1805L77-006BMSD**	Client ID:					Units: **ug/Kg-dry**		Prep Date: **05/21/2018**		Run No: **370970**	
SampleType: **MSD**	TestCode: **Metals by ICP/MS SW6020B**					BatchID: **261015**		Analysis Date: **05/22/2018**		Seq No: **8227146**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Thallium	5622	1000	5000		112	75	125	5309	5.73	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 B
Outlier Test Results

Outlier Tests for Selected Uncensored Variables

User Selected Options

Date/Time of Computation ProUCL 5.15/24/2018 10:01:55 AM

From File UCL95-ProUCL-Thallium-Native.xls

Full Precision OFF

Dixon's Outlier Test for Thallium-Native

Number of Observations = 17

10% critical value: 0.438

5% critical value: 0.49

1% critical value: 0.577

1. Observation Value 1.18 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.322

For 10% significance level, 1.18 is not an outlier.

For 5% significance level, 1.18 is not an outlier.

For 1% significance level, 1.18 is not an outlier.

2. Observation Value 0.408 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.021

For 10% significance level, 0.408 is not an outlier.

For 5% significance level, 0.408 is not an outlier.

For 1% significance level, 0.408 is not an outlier.

Outlier Tests for Selected Variables excluding nondetects

User Selected Options

Date/Time of Computation ProUCL 5.15/24/2018 10:03:10 AM

From File UCL95-ProUCL-Thallium-Native.xls

Full Precision OFF

Dixon's Outlier Test for Thallium-Native

Total N = 17
Number NDs = 8
Number Detects = 9
10% critical value: 0.441
5% critical value: 0.512
1% critical value: 0.635
Note: NDs excluded from Outlier Test

1. Data Value 0.482 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.186

For 10% significance level, 0.482 is not an outlier.
For 5% significance level, 0.482 is not an outlier.
For 1% significance level, 0.482 is not an outlier.

2. Data Value 0.408 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.066

For 10% significance level, 0.408 is not an outlier.
For 5% significance level, 0.408 is not an outlier.
For 1% significance level, 0.408 is not an outlier.

Outlier Tests for Selected Variables replacing nondetects with 1/2 the Detection Limit

User Selected Options

Date/Time of Computation ProUCL 5.15/24/2018 10:04:29 AM

From File UCL95-ProUCL-Thallium-Native.xls

Full Precision OFF

Dixon's Outlier Test for Thallium-Native

Total N = 17
Number NDs = 8
Number Detects = 9
Number Data (n) = 17
10% critical value: 0.438
5% critical value: 0.49
1% critical value: 0.577
Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 0.59 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.317

For 10% significance level, 0.59 is not an outlier.
For 5% significance level, 0.59 is not an outlier.
For 1% significance level, 0.59 is not an outlier.

2. Data Value 0.229 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.079

For 10% significance level, 0.229 is not an outlier.
For 5% significance level, 0.229 is not an outlier.
For 1% significance level, 0.229 is not an outlier.

Attachment C
BTV Calculations

Background Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.15/24/2018 10:34:32 AM
From File	UCL95-ProUCL-Thallium-Native.xls
Full Precision	OFF
Confidence Coefficient	95%
Coverage	95%
New or Future K Observations	1
Number of Bootstrap Operations	2000

Thallium-Native

General Statistics

Total Number of Observations	17	Number of Distinct Observations	17
Minimum	0.408	First Quartile	0.44
Second Largest	1.04	Median	0.469
Maximum	1.18	Third Quartile	0.515
Mean	0.569	SD	0.24
Coefficient of Variation	0.421	Skewness	1.836
Mean of logged Data	-0.626	SD of logged Data	0.338

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.486	d2max (for USL)	2.475

Normal GOF Test

Shapiro Wilk Test Statistic	0.662	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.892	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.354	Lilliefors GOF Test
5% Lilliefors Critical Value	0.207	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	1.165	90% Percentile (z)	0.876
95% UPL (t)	1	95% Percentile (z)	0.963
95% USL	1.162	99% Percentile (z)	1.127

Gamma GOF Test

A-D Test Statistic	2.297	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.74	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.33	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.209	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	8.167	k star (bias corrected MLE)	6.765
Theta hat (MLE)	0.0697	Theta star (bias corrected MLE)	0.0842
nu hat (MLE)	277.7	nu star (bias corrected)	230
MLE Mean (bias corrected)	0.569	MLE Sd (bias corrected)	0.219

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.987	90% Percentile	0.862
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.986	95% Percentile	0.97
95% WH Approx. Gamma UTL with 95% Coverage	1.206	99% Percentile	1.198
95% HW Approx. Gamma UTL with 95% Coverage	1.214		
95% WH USL	1.202	95% HW USL	1.21

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.725	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.892	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.309	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.207	Data Not Lognormal at 5% Significance Level

Data Not Lognormal at 5% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	1.24	90% Percentile (z)	0.825
95% UPL (t)	0.982	95% Percentile (z)	0.933
95% USL	1.235	99% Percentile (z)	1.175

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, r	17	95% UTL with 95% Coverage	1.18
Approx, f used to compute achieved CC	0.895	Approximate Actual Confidence Coefficient achieved by UTL:	0.582
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	1.18	95% BCA Bootstrap UTL with 95% Coverage	1.18
95% UPL	1.18	90% Percentile	0.977
90% Chebyshev UPL	1.309	95% Percentile	1.068
95% Chebyshev UPL	1.644	99% Percentile	1.158
95% USL	1.18		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Background Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.15/24/2018 10:08:08 AM
From File	UCL95-ProUCL-Thallium-Native.xls
Full Precision	OFF
Confidence Coefficient	95%
Coverage	95%
Different or Future K Observations	1
Number of Bootstrap Operations	2000

Thallium-Native

General Statistics

Total Number of Observations	17	Number of Missing Observations	0
Number of Distinct Observations	17		
Number of Detects	9	Number of Non-Detects	8
Number of Distinct Detects	9	Number of Distinct Non-Detects	8
Minimum Detect	0.408	Minimum Non-Detect	0.458
Maximum Detect	0.482	Maximum Non-Detect	1.18
Variance Detected	6.18E-04	Percent Non-Detects	47.06%
Mean Detected	0.439	SD Detected	0.0249
Mean of Detected Logged Data	-0.825	SD of Detected Logged Data	0.0561

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.486	d2max (for USL)	2.475

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.943	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.181	Lilliefors GOF Test
5% Lilliefors Critical Value	0.274	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.437	KM SD	0.0226
95% UTL95% Coverage	0.494	95% KM UPL (t)	0.478
90% KM Percentile (z)	0.466	95% KM Percentile (z)	0.475
99% KM Percentile (z)	0.49	95% KM USL	0.493

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.401	SD	0.106
95% UTL95% Coverage	0.664	95% UPL (t)	0.591
90% Percentile (z)	0.537	95% Percentile (z)	0.575
99% Percentile (z)	0.647	95% USL	0.663

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.269	Anderson-Darling GOF Test
5% A-D Critical Value	0.72	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.168	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.279	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	355.5	k star (bias corrected MLE)	237.1
Theta hat (MLE)	0.00123	Theta star (bias corrected MLE)	0.00185
nu hat (MLE)	6399	nu star (bias corrected)	4267
MLE Mean (bias corrected)	0.439		
MLE Sd (bias corrected)	0.0285	95% Percentile of Chisquare (2kstar)	525.9

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.408	Mean	0.437
Maximum	0.482	Median	0.436
SD	0.0177	CV	0.0406

k hat (MLE)	658.6	k star (bias corrected MLE)	542.4
Theta hat (MLE)	6.64E-04	Theta star (bias corrected MLE)	8.06E-04
nu hat (MLE)	22391	nu star (bias corrected)	18441
MLE Mean (bias corrected)	0.437	MLE Sd (bias corrected)	0.0188
95% Percentile of Chisquare (2kstar)	1163	90% Percentile	0.461
95% Percentile	0.469	99% Percentile	0.482

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.482	0.482	95% Approx. Gamma UPL	0.469	0.469
95% Gamma USL	0.482	0.482			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.437	SD (KM)	0.0226
Variance (KM)	5.09E-04	SE of Mean (KM)	0.00763
k hat (KM)	375.5	k star (KM)	309.3
nu hat (KM)	12768	nu star (KM)	10516
theta hat (KM)	0.00116	theta star (KM)	0.00141
80% gamma percentile (KM)	0.458	90% gamma percentile (KM)	0.47
95% gamma percentile (KM)	0.479	99% gamma percentile (KM)	0.497

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.495	0.495	95% Approx. Gamma UPL	0.478	0.479
95% KM Gamma Percentile	0.475	0.475	95% Gamma USL	0.495	0.495

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.948	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.171	Lilliefors GOF Test
5% Lilliefors Critical Value	0.274	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.437	Mean in Log Scale	-0.828
SD in Original Scale	0.0177	SD in Log Scale	0.04
95% UTL95% Coverage	0.482	95% BCA UTL95% Coverage	0.482
95% Bootstrap (%) UTL95% Coverage	0.482	95% UPL (t)	0.469
90% Percentile (z)	0.46	95% Percentile (z)	0.466
99% Percentile (z)	0.479	95% USL	0.482

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.828	95% KM UTL (Lognormal)95% Coverage	0.496
KM SD of Logged Data	0.0511	95% KM UPL (Lognormal)	0.479
95% KM Percentile Lognormal (z)	0.475	95% KM USL (Lognormal)	0.496

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.401	Mean in Log Scale	-0.952
SD in Original Scale	0.106	SD in Log Scale	0.294
95% UTL95% Coverage	0.802	95% UPL (t)	0.654
90% Percentile (z)	0.563	95% Percentile (z)	0.626
99% Percentile (z)	0.765	95% USL	0.799

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	17	95% UTL with95% Coverage	1.18
Approx, f used to compute achieved CC	0.895	Approximate Actual Confidence Coefficient achieved by UTL:	0.582
Approximate Sample Size needed to achieve specified CC	59	95% UPL	1.18
95% USL	1.18	95% KM Chebyshev UPL	0.539

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

APPENDIX D
PROFESSIONAL CERTIFICATION

PROFESSIONAL CERTIFICATION

I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors 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 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.

Charles T. Ferry #10957
Printed Name and GA PE Number

6/28/18
Date

Signature and Stamp

APPENDIX E
SUMMARY OF PROFESSIONAL HOURS

Charles T. Ferry, P.E.
Summary of Hours and Services During 6th Semi-Annual Reporting Period

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Summary of Hours for
Voluntary Remediation Program Activities - 6th Semi-Annual Reporting Period

Hours	Description
29	Consultation, Specification Review, Site Meetings and Report Preparation