2018 Riverfront Park Soil Management Report

Riverfront Park
Spokane, Washington

for
City of Spokane Parks and Recreation

June 7, 2019

GeoEngineers
Earth Science + Technology

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File No. 0110-148-06

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Prepared for:

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Parks and Recreation
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1.0 INTRODUCTION

This report documents results of soil sampling and disposal activities conducted in 2018 at Riverfront Park (the Park) in Spokane, Washington. Three areas of the Park were under construction during this time and include:

- North Bank
- Snxwʔ Meme Island (formerly Canada Island)
- Havermale Island

The Looff Carrousel opened in May 2018, but the earthwork for that project was completed in 2017. This report provides documentation of remedial activities at the park and identifies locations where contaminated soil was left in place.

Before the Park was established as part of the World's Fair of 1974 (Expo '74), it was occupied by many industrial facilities and as a result, contaminants of concern (COCs) associated with historical industrial use have been identified in soil throughout the park. Soil sampling conducted in the park (GeoEngineers 2016b and c) has identified the following COCs greater than the Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs):

- Polycyclic Aromatic Hydrocarbons (PAHs);
- Lead;
- Cadmium;
- Arsenic; and
- Diesel- and oil-range petroleum hydrocarbons (DRPH and ORPH).

In 2014, the city of Spokane (City) passed a $64 million bond for the revitalization of the Park. The city of Spokane Parks and Recreation Department (Parks) expected to encounter contamination because of the historical uses and decided to engage regulatory agencies to ensure soil management was conducted with regulatory approval. Riverfront Park was entered into the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) under Site CSID 13026, VCP project number EA0318. To manage contaminated soil at the site in a manner protective of human health and the environment, a Soil Management Plan (SMP) was developed to provide guidance for the park revitalization projects. The SMP included requirements to collect characterization samples of soil left in place and to document contaminated soil uses at the site. This report describes soil handling and characterization activities for the Riverfront Park revitalization projects during the 2018 calendar year.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1. Site History

The project site is located at 507 North Howard Street, in Spokane, Washington and is bound by Spokane Falls Boulevard to the south, Post Street to the west, Division Street to the east and West Cataldo Avenue to the north. The property is currently owned by the City and used as a public park and outdoor recreation

area. The site includes portions of Havermale Island, Snxwʔ Meme Island and areas on the north and south banks of the Spokane River (Vicinity Map, Figure 1).

Development in the Park area began in the late 1870s. The falls were the source of early power for industries in the city, then known as Spokane Falls. Factories, mills (flour and lumber) and various commercial, industrial and railroad properties near the project site were constructed in the 1880s to harness the power of the falls.

Development and building density on Havermale Island and the North Bank started in the late 1800's and occurred until about 1910. From 1910 through 1970, the building density in these areas remained similar, though the occupants of some buildings changed. By 1929, the area currently occupied by the Park was almost completely developed with buildings and railroad infrastructure. Howard Street went through the Park from north to south and Havermale Avenue connected Howard Street to Washington Street on Havermale Island. Mill activities utilized the channel between the South Bank and Havermale Island to transport logs down the river and store them for mill use. In a 1952 Sanborn map, an auto service station was present at the northeast corner of the intersection of Howard Street and Havermale Avenue and a laundry facility was present on the west side of Howard Street located on Snxwʔ Meme Island. A 1960 photograph shows that many of the buildings on Havermale Island had been demolished and parking areas occupied most of the island. By 1970, a railroad depot was located on Havermale Island. The City acquired the railroad properties in the Park in 1972. The railroad yards and industrial structures on Havermale Island were removed by 1973, according to documents from the Spokane Public Library's Northwest Room.

Riverfront Park as it is today was constructed to host Expo '74. Construction for Expo '74 began in 1973 and the existing structures on the islands, North Bank and South Bank were demolished except for the clock tower on Havermale Island. Plans for Expo '74 called for a radical alteration of the Park, including site elevations (Youngs 1996). Large amounts of fill (including topsoil) were brought in to grade the Park and according to one source (Youngs 1996), at least 200,000 cubic yards of fill were used in support of construction. It is not documented how much fill was used, but aerial photographs and Sanborn maps indicate that large portions of the Park were altered with fill. Temporary buildings constructed for Expo '74 were demolished within about a year after Expo '74. Relatively few changes were made to the Park between removal of the temporary buildings from Expo '74 and 2016, except for the removal of almost 17 acres of asphalt, concrete and pavement that covered the subject property at the time of Expo '74.

2.2. Previous Investigations and Reports

GeoEngineers has conducted environmental and geotechnical sampling at the site in support of redevelopment activities. Soil in the following areas has been characterized:

- Access Road from Post Street to the Sister Cities Garden (GeoEngineers 2016a);
- Ice Ribbon (GeoEngineers 2016b);
- Looff Carrousel (GeoEngineers 2016c);
- North Bank (GeoEngineers 2016e);
- Canada Island (GeoEngineers 2016e);
- Central Green (GeoEngineers 2016e);
- Theme Stream (GeoEngineers 2016e);

- 2016 and 2017 Soil Management Report (GeoEngineers 2018a); and
- US Pavilion (GeoEngineers 2018b).

Soil sample locations and laboratory analytical results are provided in the referenced reports.

3.0 SUMMARY OF 2018 EARTH MOVING ACTIVITIES AND ENVIRONMENTAL SAMPLING

In 2018, major revitalization construction took place in several areas of the Park. These areas included the North Bank, Snxwʔ Meme Island and Havermale Island. The following sections describe earthwork activities, soil sampling conducted in support for the construction projects and soil sampling results. Results are described as follows:

- Contaminated – concentrations for one or more COCs are greater than MTCA Method A cleanup levels
- Impacted – concentrations for one or more COCs are less than MTCA Method A cleanup levels, but are greater than the laboratory reporting limits. For metals, concentrations are less than MTCA Method A cleanup levels, but more than twice the background concentrations.
- Clean – concentrations for COCs are less than laboratory reporting limits. For metals, concentrations are less than twice the background concentrations.

Analytical reports and a data validation report for the soil samples collected are provided in Appendix A.

3.1. North Bank

Construction activities in 2018 included the North Bank Promenade, Howard Street Bridge North Channel and processing the North Bank stockpile.

3.1.1. North Bank Promenade

On March 16, 2018, GeoEngineers collected samples HSP-1 and HSP-2 to evaluate the soil in landscaping berms. Samples were collected from depths of about 0.5 to 1.0 feet below existing ground surface (bgs). Results were clean for all COCs.

On June 5, 2018, GeoEngineers collected three samples (HSP-3C through HSP-5C) at depths ranging from 2 to 4 feet below grade for soil characterization within utility trenches at the North Bank Promenade. Samples HSP-3 and HSP-5 were contaminated with PAHs. All other COCs in these samples were either clean or impacted.

Sample results are summarized in Table 1, Soil Chemical Analytical Data – TPH, Metals, VOCs and PAHs and Figure 2, Soil Sample Locations - 2018. Sample summary with location and characterization results (clean, impacted or contaminated) is presented in Table 2, Soil Sample Summary – 2018.

3.1.2. Howard Street Bridge North Channel

Old asphalt was removed from the Howard Street Bridge North Channel area and a utility corridor was installed. On June 5, 2018, Bridge Deck samples (HSP-6C and HSP-7C) were collected from a depth of 2 feet below grade to characterize soil left in place along the utility trench. Samples HSP-6C and HSP-7C were contaminated with PAHs, and impacted with petroleum hydrocarbons and metals.

On March 28, 2018, GeoEngineers collected two three-point composite samples (HSP-SP1:032818 and HSP-SP2:032818) from stockpiles of sand excavated from between the north end of the blue bridge and the Park entrance at Mallon Street. Garco excavated the soil from between a top asphalt surface of the pathway and above a bottom asphalt surface. Sample results were clean for PAHs, metals and petroleum hydrocarbons; therefore, the sand was used as bedding sand along the utility corridor.

3.1.3. North Bank Stockpile

Construction of the Ice Ribbon and Looff Carrousel resulted in a net export of soil from the site. To reduce project costs and beneficially use the soil in accordance with the project SMP (GeoEngineers 2017), Parks stockpiled the soil at the site. A stockpile management plan (GeoEngineers 2016d) was developed and a temporary stockpile location on the North Bank of the Spokane River was identified.

During 4Q18, Garco through its subcontractor AM Landshaper (AM), processed approximately 20,000 cubic yards (cy) of stockpiled soil and removed particles greater than 4 inches. Material larger than 4 inches were conveyed to a crusher and added back to the pile. The processed soil was then trucked to the Pavilion area and used to construct a large embankment seating area for the new entertainment venue under the structure at the Pavilion. Contaminated soil was encapsulated and placed and compacted and will be capped in 2019. Approximately 3,000 cy remain in the stockpile.

3.2. Snxwʔ Meme Island

On March 16, 2018, GeoEngineers collected samples SM-1 through SM-4 to evaluate soil in landscaping berms for reuse. Construction activities in the area included a utility trench. Before earthwork activities were started, samples were collected from depths of about 0.5 to 1.0 feet bgs. Arsenic and lead concentrations for samples SM-3 and SM-4 exceeded the MTCA Method A cleanup levels for unrestricted land use, respectively. Samples SM-1 and SM-2 were either clean or impacted for all COCs and samples SM-3 and SM-4 were either clean or impacted for petroleum hydrocarbons and PAHs and contaminated for metals. Soil from the area where samples SM-1 through SM-4 were collected was transported to the North Bank stockpile.

On June 5, 2018, GeoEngineers collected two samples (HSP-8C and HSP-9C) from about 3 feet below grade to characterize soil left in place within utility trenches. Metals (cadmium and lead) were detected in HSP-9C at concentrations exceeding the MTCA Method A cleanup level for unrestricted land use. PAHs were detected in HSP-8C and HSP-9C at concentrations exceeding the MTCA Method A cleanup level for unrestricted land use. Sample HSP-8C is contaminated with PAHs and impacted with petroleum hydrocarbons and metals. Sample HSP-9C is contaminated with PAHs and metals and impacted with petroleum hydrocarbons. Soil from the trench was added to the North Bank Stockpile.

3.3. Havermale Island

Havermale Island construction included the Pavilion and Howard Street Promenade projects.

3.3.1. Pavilion Sampling

GeoEngineers conducted a geotechnical and environmental assessment at the Pavilion area on January 22 and January 23, 2018, by drilling five borings (USP-1 through USP-5) at the locations shown in Figure 2. The borings were drilled using a truck-mounted, CME 75, hollow-stem auger (HSA) drill rig with rock coring capabilities, owned and operated by GeoEngineers. Samples were collected from depths ranging from 1.0

to 2.5 feet below grade (USP-3) to 3.5 to 5.0 feet below grade (the other four borings). PAHs exceeded the MTCA Method A cleanup level for unrestricted land use in two [USP-1(3.5-5') and USP-4(3.5-5')] of the five samples analyzed from the HSA borings (GeoEngineers 2018b). Samples USP-2, USP-3 and USP-5 were clean for petroleum hydrocarbons and metals and impacted for PAHs. Samples USP-1 and USP-4 were clean for petroleum hydrocarbons, impacted for metals and contaminated for PAHs.

On July 18, 2018, GeoEngineers returned to the Pavilion and Garco excavated a test pit using a mini-excavator to approximately 2.5 feet bgs near an existing water main adjacent to Washington Street at the location of a new fire hydrant. One sample (USPTP-1) was collected and analyzed. PAHs exceeded the MTCA Method A cleanup level for unrestricted land use. Sample USPTP-1 was clean for petroleum hydrocarbons and metals and contaminated for PAHs.

On August 20, 2018, Garco used a Takeuchi TB240 mini-excavator to excavate petroleum stained soil at the location of the former airplane amusement ride. Soil was excavated until field screening did not indicate the presence of contamination. The total excavation was approximately 9 feet by 13 feet and had a depth of 6 feet, with side slope of approximately 1:1. Six soil samples and a duplicate sample were collected from the excavation at depths ranging from 4.5 to 6 feet below grade. Sample USPAR-1(4.5-5) was collected to characterize soil removed from the excavation. Samples USPAR-2 (5.5-6) through USPAR-6 (5-5.5) were collected from the bottom and side walls of the excavation to characterize soil left in place. DRPH and ORPH exceeded the MTCA Method A MTCA Method A cleanup level for unrestricted land use in sample USPAR-1(4.5-5). ORPH exceeded the MTCA Method A cleanup level for unrestricted land use in five characterization samples [USPAR-1(4.5-5), USPAR-2(5.5-6), USPAR-4(5.5-6), USPAR-5(5-5.5) and USPAR-6(5-5.5)]. Soil removed from the excavation was disposed at the Graham Road landfill. Sample USPAR-3 was impacted for petroleum hydrocarbons; the remaining samples, including the duplicate, were contaminated with petroleum hydrocarbons. These samples were either clean or impacted for metals and PAHs.

3.3.2. Howard Street Promenade

On July 30, 2018, a test pit was excavated along the Howard Street promenade where an underground storage tank (UST) was suspected and a former service station was located at the intersection of Howard and Havermale Streets. The excavation depth ranged from 5 to 7.5 feet deep, which was the expected bottom depth of utility trench at that location. A UST was not observed in the excavation. One soil sample (HSP-TP1:073018) was collected from the excavation at about 3 to 4 feet below grade to characterize soil left in place. PAHs exceeded the MTCA Method A cleanup level for unrestricted land use in the one sample analyzed. Sample HSP-TP-1 was impacted for petroleum hydrocarbons and metals and contaminated for PAHs.

On August 16, 2018, suspected petroleum was encountered during rock excavation for a utility vault along the utility corridor of the Howard Street Promenade on Havermale Island. Rock and soil suspected to be contaminated with petroleum was removed from the excavation using a trackhoe. The excavation was excavated to rock, overexcavated by approximately 3 feet beyond the depth of the utility vault and backfilled with 1 foot of bedding sand, 6-mil-thick visqueen and then 1 to 2 feet of bedding sand before the utility vault was placed into the excavation. A soil sample and a duplicate sample, excavated for the utility vault (HSP-TP2-081618 and DUP) were collected and analyzed. The soil was temporarily stockpiled at the site. Both samples were impacted with PAHs, metals and petroleum hydrocarbons. Soil was disposed at the Graham Road landfill.

On August 16, 2018, GeoEngineers collected a three-point composite sample (HSP-SP1-081618) from a stockpile of soil excavated from the Howard Street Promenade on Havermale island. The sample was collected to evaluate if the soil was suitable for backfill in the utility trench. Lead and cPAHs exceeded the MTCA Method A cleanup level for unrestricted land use in the composite sample and the stockpiled soil was used to grade the Promenade and for backfill in the Pavilion. The sample was impacted for petroleum hydrocarbons and contaminated for metals and PAHs.

On August 28, 2018, GeoEngineers collected five soil samples and a duplicate sample, to characterize soil left in place along the Howard Street Promenade on the north end of Havermale Island. The samples were collected from the location of the former Imax building (HSP-10C through HSP12C), the blue bridge abutment (HSP-13C) and along the utility corridor (HSP-14C). Samples were collected from depths between 1 and 2 feet below grade. Metals (arsenic, cadmium and lead) exceeded the MTCA Method A cleanup level in sample HSP-12C(1-2). Metals (cadmium and lead) exceeded the MTCA Method A cleanup level in sample HSP-13C(1-2). PAHs exceeded the MTCA Method A cleanup level for unrestricted land use in three samples (HSP-11C[1-2], HSP-12C[1-2] and HSP-13C[1-2]). The remaining samples were impacted with metals and PAHs. Samples were either clean or impacted for petroleum hydrocarbons.

On September 19, 2018, GeoEngineers collected one sample along the Howard Street Promenade Utility corridor to characterize soil left in place (HSP-15C). PAHs exceeded the MTCA Method A cleanup level for unrestricted land use in one sample (HSP-15C). This sample was impacted for metals and petroleum hydrocarbons and contaminated for PAHs.

3.3.3. Backfill and Compaction

Between August 22 and September 10, 2018, AM hauled approximately 20,000 cubic yards of soil from the North Bank Stockpile to the Pavilion using a large excavator and super haul trucks. AM backfilled and compacted the material using a dozer, roller and skidsteer. The soil was placed as embankment fill inside the Pavilion structure along the east side, gently sloping to the west. The embankment was generally left uncovered and will be capped with a visual indicator and imported soil in 2019.

Between September 27 and October 12, 2018, AM returned to the Pavilion to construct a GeoWall with geofabric using the North Stockpile soil. AM used the same equipment and hand compactors. Strata oversaw the compaction method and verified that compaction requirements were met.

3.3.4. Soil Disposal

On September 26, 2018, Garco transported the petroleum hydrocarbon soil from the utility vault excavation and airplane ride excavation to Waste Management's Graham Road Facility (Graham Road). Approximately 17.23 tons of petroleum hydrocarbon soil was transported from Riverfront Park and disposed at Graham Road. Waste disposal documentation is found in Appendix B.

4.0 SUMMARY

In 2018, construction projects at the Park occurred at the North Bank, Snxwʔ Meme Island and Havermale Island.

Garco processed and crushed contaminated soil from the South Bank and utility trench at the North Bank stockpile in 2018. Garco and AM hauled approximately 20,000 cy of soil from the North Bank stockpile to the Pavilion area. The Pavilion project on Havermale Island resulted in a net import of soil and additional soil will be imported.

Garco transported approximately 17.23 tons of petroleum impacted soil excavated from the utility vault and airplane ride excavations to Graham Road.

Characterization samples of soil left in place after construction activities were collected and are summarized in Table 2. A geographic information system (GIS) database has been developed for this project to document soil samples collected during construction activities. The database is maintained by GeoEngineers and can be utilized by the city to identify contaminated soil left in place at Riverfront Park in the future.

5.0 REFERENCES

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TABLES

GeoEngineers

Table 1

Soil Chemical Analytical Data - TPH, Metals, VOCs, and PAHs[1]

Riverfront Park

Spokane, Washington

Analyte Group	Analyte	Units	Twice the Spokane Basin Background Metal Concentration[2]	MTCA Method A CUL[3]	Location ID, Sample ID, Date, and Depth Interval							
					SM-1 SM-1 (0.5-1.0):031618 3/16/2018 0.5 - 1 ft	SM-2 SM-2 (0.5-1.0):031618 3/16/2018 0.5 - 1 ft	SM-3 SM-3 (0.5-1.0):031618 3/16/2018 0.5 - 1 ft	SM-4 SM-4 (0.5-1.0):031618 3/16/2018 0.5 - 1 ft	HSP-SP1 HSP-SP1:032818 3/28/2018 NA	HSP-SP1 HSP-SP1-081618 8/16/2018 NA	HSP-SP2 HSP-SP2:032818 3/28/2018 NA	HSP-1 HSP-1 (0.5-1.0):031618 3/16/2018 0.5 - 1 ft
				Justification	Evaluate Soil for Reuse	Evaluate Soil for Reuse	Evaluate Soil for Reuse	Evaluate Soil for Reuse	Evaluate Soil Stockpile for Reuse	Evaluate Soil Stockpile for Reuse	Evaluate Soil Stockpile for Reuse	Evaluate Soil for Reuse
				Fate	North Bank Stockpile	North Bank Stockpile	North Bank Stockpile	North Bank Stockpile	Used for Utility Trench Bedding	Used in Promenade and Pavilion Construction	Used for Utility Trench Bedding	North Bank Stockpile
TPH[4]	Gasoline-range hydrocarbons (HCID)	mg/kg	NA	100	26 U	26 U	27 U	27 U	27 U	26 U	26 U	26 U
	Diesel-range hydrocarbons (HCID)	mg/kg	NA	2,000	52 U	51 U	54 U	55 U	53 U	52 U	53 U	53 U
	Lube Oil-range Hydrocarbons (HCID)	mg/kg	NA	2,000	100 U	100 U	110 U	110 U	110 U	**260**	110 U	110 U
	Gasoline-range hydrocarbons	mg/kg	NA	100	--	--	--	--	--	--	--	--
	Diesel-range hydrocarbons	mg/kg	NA	2,000	--	--	--	--	--	--	--	--
	Lube Oil-range Hydrocarbons	mg/kg	NA	2,000	--	--	--	--	--	--	--	--
Metals[5]	Arsenic	mg/kg	18.68	20	**14**	**16**	**24**	**13**	**6.2**	**13**	**5.0**	**16**
	Barium	mg/kg	NE	NE	**59**	**77**	**68**	**81**	**66**	**91**	**60**	**61**
	Cadmium	mg/kg	1.4	2	2.4 U	2.3 U	2.2 U	2.4 U	2.5 U	1.5 U	2.1 U	1.8 U
	Chromium	mg/kg	35.6	2,000[6]	**11**	**13**	**13**	**12**	**16**	**12**	**3.9**	**11**
	Lead	mg/kg	29.8	250	**6.8**	**20**	**22**	**270**	**15**	**290**	**7.5**	**7.1**
	TCLP Lead[7]	mg/L	NE	5[7]	–	–	–	–	–	–	–	–
	Mercury	µg/kg	40	2,000	33 U	35 U	31 U	**130**	21 U	**140**	19 U	30 U
	Selenium	mg/kg	NE	NE	9.6 U	9.3 U	9.0 U	9.4 U	9.8 U	7.6 U	8.6 U	7.3 U
	Silver	mg/kg	NE	NE	2.4 U	2.3 U	2.2 U	2.4 U	2.5 U	1.9 U	2.1 U	1.8 U
PAHs[8]	1-Methylnaphthalene	µg/kg	NA	NE	11 U	10 U	11 U	11 U	10 U	10 U	10 U	11 U
	2-Methylnaphthalene	µg/kg	NA	NE	11 U	10 U	11 U	11 U	10 U	**12**	10 U	11 U
	Naphthalene	µg/kg	NA	NE	11 U	10 U	11 U	11 U	10 U	10 U	10 U	11 U
	Total Naphthalene	µg/kg	NA	5,000[9]	11 U	10 U	11 U	11 U	10 U	**12**	10 U	11 U
	Acenaphthene	µg/kg	NA	NE	11 U	10 U	11 U	11 U	10 U	10 U	10 U	11 U
	Acenaphthylene	µg/kg	NA	NE	11 U	10 U	11 U	11 U	10 U	**27**	10 U	11 U
	Anthracene	µg/kg	NA	NE	11 U	10 U	11 U	**13**	10 U	**35**	10 U	11 U
	Benzo(a)anthracene	µg/kg	NA	NE	11 U	10 U	11 U	**36**	10 U	**110**	10 U	11 U
	Benzo(a)pyrene	µg/kg	NA	100	11 U	10 U	11 U	**47**	10 U	**130**	10 U	11 U
	Benzo(b)fluoranthene	µg/kg	NA	NE	**12**	10 U	11 U	**61**	10 U	**150 J**	10 U	11 U
	Benzo(g,h,i)perylene	µg/kg	NA	NE	11 U	10 U	11 U	**41**	10 U	**100**	10 U	11 U
	Benzo(k)fluoranthene	µg/kg	NA	NE	11 U	10 U	11 U	**20**	10 U	**65**	10 U	11 U
	Chrysene	µg/kg	NA	NE	11 U	10 U	11 U	**46**	10 U	**130**	**17**	11 U
	Dibenzo(a,h)anthracene	µg/kg	NA	NE	11 U	10 U	11 U	11 U	10 U	**23**	10 U	11 U
	Fluoranthene	µg/kg	NA	NE	11 U	10 U	11 U	**67**	**10**	**190**	10 U	11 U
	Fluorene	µg/kg	NA	NE	11 U	10 U	11 U	11 U	10 U	**11**	10 U	11 U
	Indeno(1,2,3-c,d)pyrene	µg/kg	NA	NE	11 U	10 U	11 U	**30**	10 U	**76**	10 U	11 U
	Phenanthrene	µg/kg	NA	NE	11 U	10 U	11 U	**40**	10 U	**91**	10 U	11 U
	Pyrene	µg/kg	NA	NE	11 U	10 U	11 U	**71**	**11**	**220**	10 U	11 U
	Total cPAH TEQ[10] (ND=0.5RL)[11]	µg/kg	NA	100	**8.955**	7.55 U	8.305 U	**62.71**	7.55 U	**173.7**	**7.67**	8.305 U

Analyte Group	Analyte	Units	Twice the Spokane Basin Background Metal Concentration[2]	MTCA Method A CUL[3]	Location ID, Sample ID, Date, and Depth Interval									
					HSP-2 HSP-2 (0.5-1.0):031618 3/16/2018 0.5 - 1 ft	HSP-3C HSP-3C:060518 6/5/2018 4 ft	HSP-3C HSP-DUP:060518 6/5/2018 4 ft	HSP-4C HSP-4C:060518 6/5/2018 2 ft	HSP-5C HSP-5C:060518 6/5/2018 3 ft	HSP-6C HSP-6C:060518 6/5/2018 2 ft	HSP-7C HSP-7C:060518 6/5/2018 2 ft	HSP-8C HSP-8C:060518 6/5/2018 3 ft	HSP-9C HSP-9C:060518 6/5/2018 3 ft	HSP-10C HSP-10C (1-2) 8/28/2018 1 - 2 ft
				Justification	Evaluate Soil for Reuse	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample
				Fate	North Bank Stockpile	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place
TPH[4]	Gasoline-range hydrocarbons (HCID)	mg/kg	NA	100	24 U	25 U	24 U	26 U	28 U	25 U	25 U	26 U	25 U	26 U
	Diesel-range hydrocarbons (HCID)	mg/kg	NA	2,000	48 U	50 U	49 U	53 U	55 U	50 U	**74**	52 U	**330 J**	53 U
	Lube Oil-range Hydrocarbons (HCID)	mg/kg	NA	2,000	97 U	**340**	**460**	**190**	**170**	**580**	**410**	**110**	**460 J**	110 U
	Gasoline-range hydrocarbons	mg/kg	NA	100	--	--	--	--	--	--	--	--	--	--
	Diesel-range hydrocarbons	mg/kg	NA	2,000	--	--	--	--	--	--	--	--	--	--
	Lube Oil-range Hydrocarbons	mg/kg	NA	2,000	--	--	--	--	--	--	--	--	--	--
Metals[5]	Arsenic	mg/kg	18.68	20	**17**	**5.9 J**	**12 J**	**6.8**	**6.4**	**6.2**	**8.7**	**7.9**	**18**	**14**
	Barium	mg/kg	NE	NE	**57**	**61 J**	**130 J**	**79**	**180**	**80**	**76**	**100**	**270**	**58**
	Cadmium	mg/kg	1.4	2	1.9 U	0.97 U	4.0 U	0.87 U	4.4 U	0.84 U	0.92 U	0.90 U	**2.3**	1.7 U
	Chromium	mg/kg	35.6	2,000[6]	**10**	**6.4 J**	**9.5 J**	**11**	**8.8**	**19**	**10**	**11**	**12**	**11**
	Lead	mg/kg	29.8	250	**6.4**	**47 J**	**140 J**	**22**	**110**	**160**	**25**	**68**	**520**	**46**
	TCLP Lead[7]	mg/L	NE	5[7]	--	--	--	--	--	--		--	--	--
	Mercury	µg/kg	40	2,000	37 U	46 U	**60**	37 U	**410**	**200**	**170**	**130**	**290**	**37**
	Selenium	mg/kg	NE	NE	7.4 U	4.9 U	20 U	4.3 U	22 U	4.2 U	4.6 U	4.5 U	8.5 U	8.7 U
	Silver	mg/kg	NE	NE	1.9 U	1.2 U	5.0 U	1.1 U	5.6 U	1.1 U	1.1 U	1.1 U	2.1 U	2.2 U
PAHs[8]	1-Methylnaphthalene	µg/kg	NA	NE	10 U	52 U	**140**	10 U	**17**	51 U	10 U	10 U	**74**	10 U
	2-Methylnaphthalene	µg/kg	NA	NE	10 U	52 U	**75**	10 U	**19**	51 U	10 U	10 U	**21**	10 U
	Naphthalene	µg/kg	NA	NE	10 U	52 U	52 U	10 U	11 U	51 U	10 U	10 U	**19**	10 U
	Total Naphthalene	µg/kg	NA	5,000[9]	10 U	52 U	**215**	10 U	**36**	51 U	10 U	10 U	**114**	10 U
	Acenaphthene	µg/kg	NA	NE	10 U	52 UJ	**180 J**	10 U	11 U	51 U	**22**	**31**	**420**	10 U
	Acenaphthylene	µg/kg	NA	NE	10 U	52 UJ	**170 J**	10 U	**35**	**480**	**23**	**21**	**280**	10 U
	Anthracene	µg/kg	NA	NE	10 U	52 UJ	**320 J**	10 U	**44**	**260**	**91**	**68**	**2,000**	10 U
	Benzo(a)anthracene	µg/kg	NA	NE	10 U	52 UJ	**630 J**	**25**	**290**	**1,700**	**1,100**	**210**	**4,300**	**26**
	Benzo(a)pyrene	µg/kg	NA	100	10 U	**61 J**	**500 J**	**33**	**280**	**1,900**	**770**	**210**	**3,200**	**33**
	Benzo(b)fluoranthene	µg/kg	NA	NE	10 U	**58 J**	**510 J**	**38**	**340**	**2,200**	**900**	**290**	**3,500**	**40**
	Benzo(g,h,i)perylene	µg/kg	NA	NE	10 U	**85 J**	**190 J**	**25**	**140**	**760**	**300**	**90**	**940**	**31**
	Benzo(k)fluoranthene	µg/kg	NA	NE	10 U	52 UJ	**230 J**	**15**	**130**	**880**	**270**	**95**	**1,600**	**15**
	Chrysene	µg/kg	NA	NE	10 U	**58 J**	**650 J**	**34**	**330**	**1,800**	**1,200**	**240**	**4,200**	**30**
	Dibenzo(a,h)anthracene	µg/kg	NA	NE	10 U	52 U	**81**	10 U	**51**	**260**	**140**	**35**	**390**	10 U
	Fluoranthene	µg/kg	NA	NE	10 U	**70 J**	**1,000 J**	**42**	**370**	**2,200**	**970**	**340**	**8,700**	**56**
	Fluorene	µg/kg	NA	NE	10 U	52 UJ	**210 J**	10 U	11 U	51 U	**19**	**17**	**470**	10 U
	Indeno(1,2,3-c,d)pyrene	µg/kg	NA	NE	10 U	52 UJ	**170 J**	**19**	**130**	**750**	**270**	**94**	**1,100**	**24**
	Phenanthrene	µg/kg	NA	NE	10 U	52 UJ	**1,400 J**	**19**	**120**	**500**	**430**	**220**	**6,700**	**32**
	Pyrene	µg/kg	NA	NE	10 U	**62 J**	**1,600 J**	**56**	**590**	**2,900**	**2,000**	**470**	**9,000**	**52**
	Total cPAH TEQ[10] (ND=0.5RL)[11]	µg/kg	NA	100	7.55 U	**77.78**	**668.6**	**43.54**	**377.4**	**2,497**	**1,050**	**284.8**	**4,331**	**44.3**

Analyte Group	Analyte	Units	Twice the Spokane Basin Background Metal Concentration[2]	MTCA Method A CUL[3]	Location ID, Sample ID, Date, and Depth Interval								
					HSP-11C HSP-11C (1-2) 8/28/2018 1 - 2 ft	HSP-12C HSP-12C (1-2) 8/28/2018 1 - 2 ft	HSP-13C HSP-13C (1-2) 8/28/2018 1 - 2 ft	HSP-14C HSP-14C (1-2) 8/28/2018 1 - 2 ft	HSP-14C DUP-082818 8/28/2018 1 - 2 ft	HSP-15C HSP-15C (7) 9/19/2018 7 ft	HSP-TP1 HSP-TP1:073018 7/30/2018 3 - 4 ft	HSP-TP2 HSP-TP2-081618 8/16/2018 3 ft	HSP-TP2 HSP-TP2-DUP-081618 8/16/2018 3 ft
				Justification	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Evaluate in-place Soil	Profile for Disposal	Profile for Disposal
				Fate	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Graham Road Landfill	Graham Road Landfill
TPH[4]	Gasoline-range hydrocarbons (HCID)	mg/kg	NA	100	26 U	25 U	27 U	25 U	26 U	--	--	--	--
	Diesel-range hydrocarbons (HCID)	mg/kg	NA	2,000	51 U	49 U	55 U	51 U	53 U	--	--	--	--
	Lube Oil-range Hydrocarbons (HCID)	mg/kg	NA	2,000	100 U	**130**	110 U	100 U	110 U	--	--	--	--
	Gasoline-range hydrocarbons	mg/kg	NA	100	--	--	--	--	--	6.2 U	**19**	5.6 U	7.6 U
	Diesel-range hydrocarbons	mg/kg	NA	2,000	--	--	--	--	--	**31**	**480 J**	**67 J**	**73 J**
	Lube Oil-range Hydrocarbons	mg/kg	NA	2,000	--	--	--	--	--	**230**	**300 J**	**280**	**290**
Metals[5]	Arsenic	mg/kg	18.68	20	**15**	**24**	**8.9**	**8.4**	**8.2**	**11**	**15**	**12**	**12**
	Barium	mg/kg	NE	NE	**69**	**88**	**140**	**65**	**71**	**56**	**70**	**84**	**88**
	Cadmium	mg/kg	1.4	2	1.8 U	**3.6**	**11**	1.6 U	1.7 U	0.77 U	1.9 U	1.4 U	1.4 U
	Chromium	mg/kg	35.6	2,000[6]	**9.3**	**10**	**14**	**11**	**11**	**9.5**	**21**	**10**	**11**
	Lead	mg/kg	29.8	250	**54**	**1,000**	**290**	**22**	**20**	**53**	**87**	**93 J**	**140 J**
	TCLP Lead[7]	mg/L	NE	5[7]	--	--	--	--	--	--	--	--	--
	Mercury	µg/kg	40	2,000	**43**	**230**	**230**	**70**	**53**	**60**	**63**	45 U	43 U
	Selenium	mg/kg	NE	NE	8.9 U	7.9 U	8.5 U	7.8 U	8.7 U	3.9 U	9.5 U	7.2 U	7.1 U
	Silver	mg/kg	NE	NE	2.2 U	2.0 U	2.1 U	1.9 U	2.2 U	0.96 U	2.4 U	1.8 U	1.8 U
PAHs[8]	1-Methylnaphthalene	µg/kg	NA	NE	10 U	10 U	**26**	11 U	11 U	10 U	**1,800**	**31**	**26**
	2-Methylnaphthalene	µg/kg	NA	NE	10 U	**10**	**28**	11 U	11 U	10 U	**5,200**	**33**	**28**
	Naphthalene	µg/kg	NA	NE	10 U	**13**	**21**	11 U	11 U	10 U	--	**11**	10 U
	Total Naphthalene	µg/kg	NA	5,000[9]	10 U	**23**	**75**	11 U	11 U	10 U	**7,000**	**75**	**54**
	Acenaphthene	µg/kg	NA	NE	**25**	**13**	**110**	11 U	11 U	10 U	11 U	10 U	10 U
	Acenaphthylene	µg/kg	NA	NE	10 U	**22**	**25**	11 U	11 U	**13**	**76**	10 U	10 U
	Anthracene	µg/kg	NA	NE	**49**	**53**	**230**	11 U	11 U	**30**	**400**	10 U	10 U
	Benzo(a)anthracene	µg/kg	NA	NE	**120**	**110**	**660**	**24**	**19**	**67**	**100**	**22**	**29**
	Benzo(a)pyrene	µg/kg	NA	100	**130**	**120**	**680**	**29**	**25**	**85**	**85**	**25**	**30**
	Benzo(b)fluoranthene	µg/kg	NA	NE	**150**	**170**	**690**	**30**	**29**	**92**	**180**	**31**	**32**
	Benzo(g,h,i)perylene	µg/kg	NA	NE	**82**	**110**	**290**	**19**	**18**	**60**	**100**	**27**	**28**
	Benzo(k)fluoranthene	µg/kg	NA	NE	**63**	**62**	**290**	**14**	**13**	**37**	**42**	**11**	**13**
	Chrysene	µg/kg	NA	NE	**130**	**140**	**690**	**27**	**24**	**80**	**150**	**31**	**39**
	Dibenzo(a,h)anthracene	µg/kg	NA	NE	**22**	**27**	**79**	11 U	11 U	**13**	**20**	10 U	10 U
	Fluoranthene	µg/kg	NA	NE	**250**	**250**	**1,200**	**44**	**33**	**130**	**340**	**37**	**39**
	Fluorene	µg/kg	NA	NE	**14**	**12**	**68**	11 U	11 U	10 U	**530**	10 U	10 U
	Indeno(1,2,3-c,d)pyrene	µg/kg	NA	NE	**70**	**86**	**260**	**16**	**15**	**46**	**77**	**18**	**19**
	Phenanthrene	µg/kg	NA	NE	**150**	**140**	**800**	**28**	**20**	**66**	**1100**	**20**	**23**
	Pyrene	µg/kg	NA	NE	**220**	**230**	**1,500**	**46**	**36**	**150**	**470**	**46**	**59**
	Total cPAH TEQ[10] (ND=0.5RL)[11]	µg/kg	NA	100	**173.8**	**166.9**	**884.8**	**38.22**	**33.39**	**111.3**	**128.4**	**34.01**	**40.19**

Analyte Group	Analyte	Units	Twice the Spokane Basin Background Metal Concentration[2]	MTCA Method A CUL[3]	Location ID, Sample ID, Date, and Depth Interval												
					USP-1 USP-1 (3.5-5') 1/22/2018 3.5 - 5 ft	USP-2 USP-2 (3.5-5') 1/23/2018 3.5 - 5 ft	USP-3 USP-3 (1-2.5') 1/23/2018 1 - 2.5 ft	USP-4 USP-4 (3.5-5')[12] 1/23/2018 3.5 - 5 ft	USP-5 USP-5 (3.5-5') 1/23/2018 3.5 - 5 ft	USPAR-1 USPAR-1 (4.5-5) 8/20/2018 4.5 - 5 ft	USPAR-2 USPAR-2 (5.5-6) 8/20/2018 5.5 - 6 ft	USPAR-3 USPAR-3 (5-5.5) 8/20/2018 5 - 5.5 ft	USPAR-4 USPAR-4 (5.5-6) 8/20/2018 5.5 - 6 ft	USPAR-5 USPAR-5 (5-5.5) 8/20/2018 5 - 5.5 ft	USPAR-6 USPAR-6 (5-5.5) 8/20/2018 5 - 5.5 ft	USPAR-6 DUP-20180820 8/20/2018 5 - 5.5 ft	USPTP-1 USPTP-1 (2-2.5) 7/18/2018 2 - 2.5 ft
				Justification	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Profile for Disposal	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Characterization Sample	Evaluate in-place Soil
				Fate	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Graham Road Landfill	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Left in Place	Used in Promenade and Pavilion Construction
TPH[4]	Gasoline-range hydrocarbons (HCID)	mg/kg	NA	100	--	--	--	--	--	--	--	--	--	--	--	--	25 U
	Diesel-range hydrocarbons (HCID)	mg/kg	NA	2,000	--	--	--	--	--	--	--	--	--	--	--	--	51 U
	Lube Oil-range Hydrocarbons (HCID)	mg/kg	NA	2,000	--	--	--	--	--	--	--	--	--	--	--	--	100 U
	Gasoline-range hydrocarbons	mg/kg	NA	100	44 U	42 U	39 U	41 U	41 U	4.8 U	5.7 U	5.7 U	6.7 U	5.4 U	6.0 U	6.0 U	--
	Diesel-range hydrocarbons	mg/kg	NA	2,000	110 U	110 U	96 U	100 U	100 U	**3,000 J**	**610 J**	**36 J**	**1,500 J**	**770 J**	**760 J**	**560 J**	--
	Lube Oil-range Hydrocarbons	mg/kg	NA	2,000	110 U	110 U	96 U	100 U	100 U	**20,000**	**4,700**	**300**	**12,000**	**4,000**	**4,300**	**3,800**	--
Metals[5]	Arsenic	mg/kg	18.68	20	**8.2**	**14**	**15**	**13**	**9.8**	**6.7**	**13**	**12**	**13**	**8.6**	**10**	**9.3**	**11**
	Barium	mg/kg	NE	NE	**87**	**48**	**51**	**94**	**34**	**69**	**72**	**72**	**71**	**93**	**77**	**63**	**53**
	Cadmium	mg/kg	1.4	2	1.9 U	2.2 U	2.1 U	2.3 U	1.9 U	1.7 U	1.6 U	1.7 U	1.6 U	1.6 U	1.8 U	1.7 U	2.0 U
	Chromium	mg/kg	35.6	2,000[6]	**9.8**	**9.7**	**8.8**	**11**	**8.1**	**11**	**9.3**	**9.7**	**11**	**12**	**15 J**	**9.5 J**	**15**
	Lead	mg/kg	29.8	250	**84**	**9.6**	**9.5**	**150**	**8.1**	**34**	**9.6**	**18**	**24**	**36**	**25**	**17**	**12**
	TCLP Lead[7]	mg/L	NE	5[7]	--	--	--	**0.44**	--	--	--	--	--	--	--	--	--
	Mercury	µg/kg	40	2,000	**180**	26 U	24 U	**310**	23 U	**83**	41 U	**46**	**46**	**60**	**75**	**49**	32 U
	Selenium	mg/kg	NE	NE	7.7 U	9.0 U	8.5 U	9.2 U	7.7 U	8.5 U	7.9 U	8.6 U	8.1 U	8.0 U	9.2 U	8.6 U	9.9 U
	Silver	mg/kg	NE	NE	1.9 U	2.2 U	2.1 U	2.3 U	1.9 U	2.1 U	2.0 U	2.2 U	2.0 U	2.0 U	2.3 U	2.1 U	2.5 U
PAHs[8]	1-Methylnaphthalene	µg/kg	NA	NE	11 U	10 U	10 U	49	10 U	10 U	110 U	10 U	11 U	11 U	10 U	11 U	9.9 U
	2-Methylnaphthalene	µg/kg	NA	NE	11 U	10 U	10 U	47	10 U	10 U	110 U	10 U	11 U	11 U	10 U	11 U	9.9 U
	Naphthalene	µg/kg	NA	NE	11 U	10 U	10 U	43	10 U	10 U	110 U	10 U	11 U	11 U	10 U	11 U	9.9 U
	Total Naphthalene	µg/kg	NA	5,000[9]	33 U	30 U	30 U	**139**	30 U	10 U	110 U	10 U	11 U	11 U	10 U	11 U	9.9 U
	Acenaphthene	µg/kg	NA	NE	**16**	10 U	10 U	**120**	10 U	10 U	110 U	10 U	11 U	11 U	10 U	11 U	**73**
	Acenaphthylene	µg/kg	NA	NE	11 U	10 U	10 U	**47**	10 U	**14**	110 U	10 U	11 U	**23**	**20**	**17**	9.9 U
	Anthracene	µg/kg	NA	NE	**46**	10 U	**11**	**300**	10 U	**16**	110 U	10 U	**27**	**15**	**19**	**18**	**130**
	Benzo(a)anthracene	µg/kg	NA	NE	**110**	10 U	**23**	**500**	10 U	10 U	110 U	**21**	**47**	**64**	**71**	**64**	**280**
	Benzo(a)pyrene	µg/kg	NA	100	**130**	10 U	**26**	**540**	**12**	100 U	110 U	**24**	110 U	**72**	100 U	110 U	**290**
	Benzo(b)fluoranthene	µg/kg	NA	NE	**130**	10 U	**2**	**540**	**16**	100 U	110 U	**31**	110 U	**110**	**110**	**120**	**340**
	Benzo(g,h,i)perylene	µg/kg	NA	NE	**100**	**10**	**20**	**370**	**22**	100 U	110 U	**18**	110 U	**56**	**100**	110 U	**180**
	Benzo(k)fluoranthene	µg/kg	NA	NE	**59**	10 U	**12**	**240**	10 U	100 U	110 U	**11**	110 U	**41**	100 U	110 U	**140**
	Chrysene	µg/kg	NA	NE	**130**	10 U	**27**	**560**	10 U	**41**	110 U	**23**	**53**	**75**	**84**	**75**	**300**
	Dibenzo(a,h)anthracene	µg/kg	NA	NE	**22**	10 U	10 U	**81**	10 U	100 U	110 U	10 U	110 U	**13**	100 U	110 U	**46**
	Fluoranthene	µg/kg	NA	NE	**240**	10 U	**58**	**1100**	**11**	**75**	110 U	**40**	**99**	**98**	**120**	**99**	**650**
	Fluorene	µg/kg	NA	NE	**14**	10 U	10 U	**100**	10 U	10 U	110 U	10 U	**13**	11 U	10 U	11 U	**49**
	Indeno(1,2,3-c,d)pyrene	µg/kg	NA	NE	**75**	10 U	**16**	**290**	**13**	100 U	110 U	**13**	110 U	**43**	100 U	110 U	**150**
	Phenanthrene	µg/kg	NA	NE	**190**	10 U	**46**	**1100**	10 U	**42**	110 U	**18**	**98**	**29**	**54**	**47**	**390**
	Pyrene	µg/kg	NA	NE	**250**	10 U	**59**	**1300**	**13**	**140**	110 U	**41**	**120**	**120**	**140**	**110**	**580**
	Total cPAH TEQ[10] (ND=0.5RL)[11]	µg/kg	NA	100	**170.9**	7.55 U	**34.87**	**710.7**	**16.45**	**70.91**	83.05 U	**32.33**	**82.23**	**99.85**	**83.94**	**90.65**	**388.6**

Notes:

[1]Samples analyzed by TestAmerica Laboratories, Inc. located in Spokane Valley, Washington.

[2]Background level used for metals in soil is the Washington State Department of Ecology Natural Background 90th Percentile Value for the Spokane Basin (Ecology 1994).

[3]Model Toxics Control Act (MTCA) Method A unrestricted land use cleanup levels (CUL).

[4]Total Petroleum Hydrocarbons (TPH) analyzed using Method Northwest Method TPH-HCID, TPH-Gx, or TPH-Dx.

[5]Metals analyzed using Environmental Protection Agency (EPA) Method 6010C. Mercury by EPA Method 7471B.

[6]Chromium III cleanup level. MTCA Method A cleanup level for Chromium VI is 19 mg/kg.

[7]Volatile Organic Compounds (VOCs) analyzed using EPA Method 8260C.

[8]Polycyclic aromatic hydrocarbons analyzed using EPA Method 8270DSIM.

[9]Sum total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.

[10]Carcinogenic PAH (cPAH) toxic equivalency (TEQ) calculated using toxicity equivalency factors (TEF) from MTCA Table 708-2, based on methodology described in MTCA Cleanup Regulation Washington Administrative Code (WAC) 173-340-708.

[11]The TEQ reported was calculated using half the laboratory reporting limits for cPAHs less than reporting limits.

[12]Sample USP-4(3.5-5') was analyzed for volatile organic compounds (VOCs) by EPA Method 8260; the sample did not have detections of VOCs greater than laboratory reporting limits.

mg/kg = milligrams per kilogram; NE = not established; µg/kg = micrograms per kilogram; U = analyte was not detected above the laboratory reporting limit; J = estimated result; NA = Not Applicable; ft = feet

Bold indicates that the analyte was detected above the reporting limit.

Shading indicates that the analyte was detected above the MTCA Method A CUL.

Gold shading indicates analyte was not detected above the reporting limit, but the concentration was greater than or equal to the MTCA Method A CUL.

Blue shading indicates the reported concentration was greater than twice the Spokane Basin background metals concentration (Ecology 1994).

Justification is the reason to collect the sample and fate indicates where the soil that is represented by that sample is located after construction activities.

Table 2

Soil Sample Summary - 2018

Riverfront Park

Spokane, Washington

Location	Date	Depth (feet)	Sample Number	Petroleum Hydrocarbons	Metals	PAHs	Contaminants
North Bank - Promenade	03/16/18	0.5-1	HSP-1	Clean	Clean	Clean	NA
	03/16/18	0.5-1	HSP-2	Clean	Clean	Clean	NA
	06/05/18	4	HSP-3C	Impacted	Impacted	Contaminated	cPAHs
	06/05/18	2	HSP-4C	Impacted	Clean	Impacted	NA
	06/05/18	3	HSP-5C	Impacted	Impacted	Contaminated	cPAHs
North Bank - Howard Street Bridge North Channel	06/05/18	2	HSP-6C	Impacted	Impacted	Contaminated	cPAHs
	06/05/18	2	HSP-7C	Impacted	Impacted	Contaminated	cPAHs
Snxw? Meme Island	03/16/18	0.5-1	SM-1	Clean	Clean	Impacted	NA
	03/16/18	0.5-1	SM-2	Clean	Clean	Clean	NA
	03/16/18	0.5-1	SM-3	Clean	Contaminated	Clean	Arsenic
	03/16/18	0.5-1	SM-4	Clean	Contaminated	Impacted	Lead
	06/05/18	3	HSP-8C	Impacted	Impacted	Contaminated	cPAHs
	06/05/18	3	HSP-9C	Impacted	Contaminated	Contaminated	Cadmium, Lead, cPAHs
Havermale Island - Pavilion	01/22/18	3.5-5	USP-1	Clean	Impacted	Contaminated	cPAHs
	01/23/18	3.5-5	USP-2	Clean	Clean	Impacted	NA
	01/23/18	1-2.5	USP-3	Clean	Clean	Impacted	NA
	01/23/18	3.5-5	USP-4	Clean	Impacted	Contaminated	cPAHs
	01/23/18	3.5-5	USP-5	Clean	Clean	Impacted	NA
	07/18/18	2-2.5	USPTP-1	Clean	Clean	Contaminated	cPAHs
	08/20/18	4.5-5	USPAR-1	Contaminated	Impacted	Impacted	DRPH, ORPH
	08/20/18	5.5-6	USPAR-2	Contaminated	Clean	Clean	ORPH
	08/20/18	5-5.5	USPAR-3	Impacted	Impacted	Impacted	NA
	08/20/18	5.5-6	USPAR-4	Contaminated	Impacted	Impacted	ORPH
	08/20/18	5-5.5	USPAR-5	Contaminated	Impacted	Impacted	ORPH
	08/20/18	5-5.5	USPAR-6	Contaminated	Impacted	Impacted	ORPH

Location	Date	Depth (feet)	Sample Number	Petroleum Hydrocarbons	Metals	PAHs	Contaminants
Havermale Island - Howard Street Promenade	07/30/18	3-4	HSP-TP1	Impacted	Impacted	Contaminated	cPAHs
	08/16/18	3	HSP-TP2	Impacted	Impacted	Impacted	NA
	08/28/18	1-2	HSP-10C	Clean	Impacted	Impacted	NA
	08/28/18	1-2	HSP-11C	Clean	Impacted	Contaminated	cPAHs
	08/28/18	1-2	HSP-12C	Impacted	Contaminated	Contaminated	Arsenic, Cadmium, Lead, cPAHs
	08/28/18	1-2	HSP-13C	Clean	Contaminated	Contaminated	Cadmium, Lead, cPAHs
	08/28/18	1-2	HSP-14C	Clean	Impacted	Impacted	NA
	09/19/18	7	HSP-15C	Impacted	Impacted	Contaminated	cPAHs

Notes:

cPAH = Carcinogenic polycyclic aromatic hydrocarbons ; PAH = Polycyclic aromatic hydrocarbons

DRPH = Diesel-range petroleum hydrocarbons; ORPH = Oil-range petroleum hydrocarbons

NA = Not applicable

FIGURES

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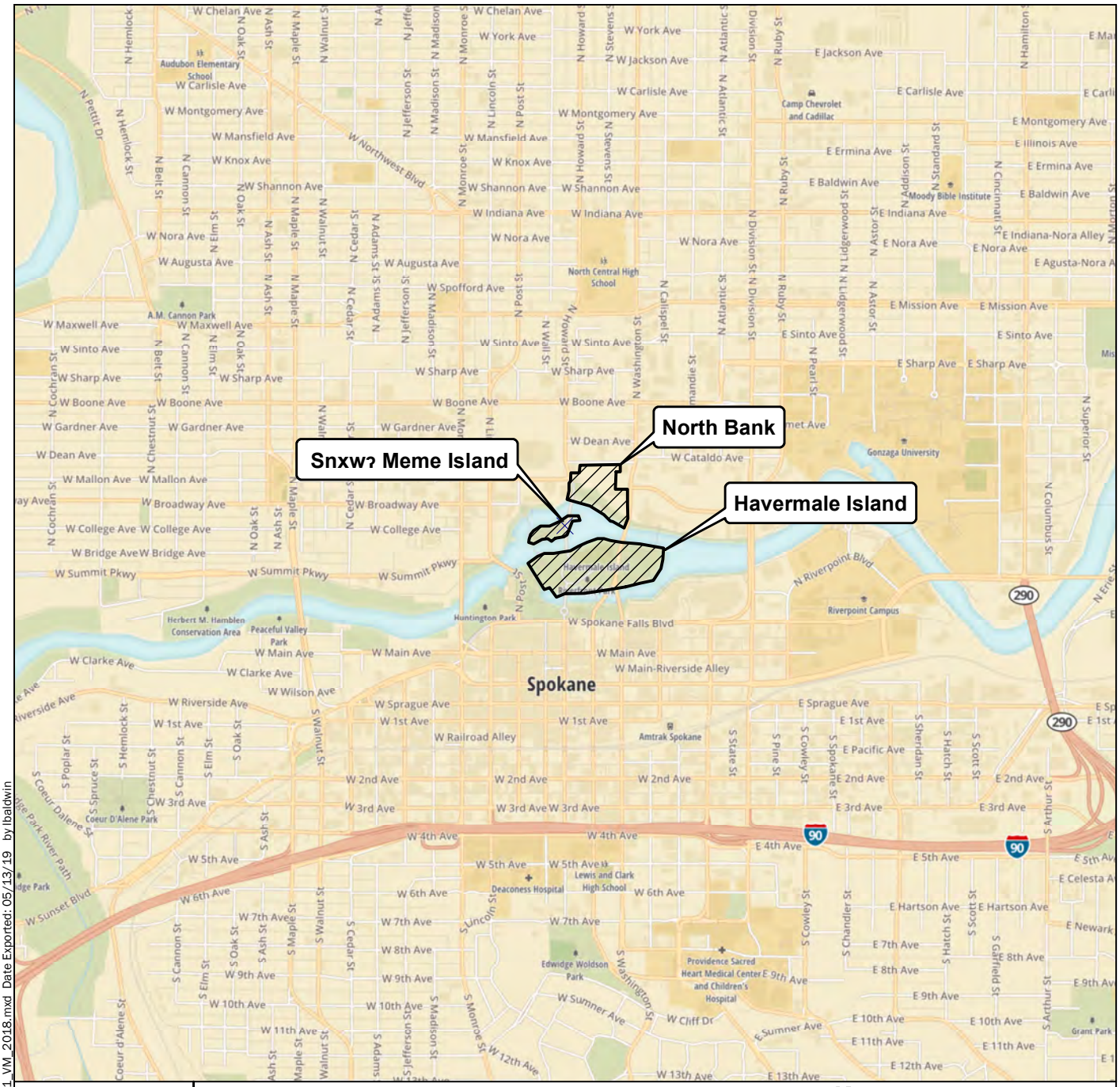

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 UTM Zone 11N

Vicinity Map

Riverfront Park
Spokane, Washington

GeoEngineers

Figure 1

\\geoengineers.com\WAN\Projects\0\0110148\GIS\06\MXD\0011014806_F01_VM_2018.mxd Date Exported: 05/13/19 by lbaldwin

\\geoengineers.com\WAN\Projects\0\0110148\GIS\06\MXD\0011014806_F02_SampleLocations_Update.mxd Date Exported: 06/06/19 by lbaldwin

Legend

- Approximate Utility Corridor Alignment
- Contaminated – Concentration greater than MTCA Method A Cleanup Level for one or more COC analyzed
- Impacted – Concentration less than MTCA Method A Cleanup Levels and greater than laboratory reporting limits or twice the available background metals concentration for one or more COC analyzed
- Clean – Concentration less than laboratory reporting limits or less than twice the available background metals concentrations for each COC analyzed

- TPH
- Metals
- PAHs

N W E S

150 0 150

Feet

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Locations are not exact. Points were adjusted for cartographic clarity.

Data Source: ESRI

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Soil Sample Locations - 2018

Riverfront Park
Spokane, Washington

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Figure 2

APPENDICES

GeoEngineers

APPENDIX A
Soil Laboratory Reports and Data Validation Report

GeoEngineers

523 East Second Avenue, Spokane, Washington 99202, Telephone: 509.363.3125 www.geoengineers.com

Data Validation Report

Project: City of Spokane –Riverfront Park
March, June, July, August, and September 2018 Soil Samples

GEI File No: 00110-148-06

Date: November 6, 2018

This report documents the results of a United States Environmental Protection Agency (USEPA)-defined Stage 2A data validation (USEPA Document 540-R-08-005; USEPA, 2009) of analytical data from the analyses of soil samples collected as part of the March, June, July, August and September 2018 sampling events, and the associated laboratory and field quality control (QC) samples. The samples were obtained from the Riverfront Park Site located between Spokane Falls Boulevard to the south, Post Street to the west, Division Street to the east, and the Spokane River to the north, at 507 North Howard Street in Spokane, Washington.

Objective and Quality Control Elements

GeoEngineers, Inc. (GeoEngineers) completed the data validation consistent with the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2016a) and Inorganic Superfund Data Review (USEPA, 2016b) (National Functional Guidelines) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (QAPP), Appendix A of the Work Plan, Riverfront Park Geotechnical and Environmental Services (GeoEngineers, 2016), the data validation included review of the following QC elements:

- Data Package Completeness
- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Laboratory/Field Duplicates
- Miscellaneous

Validated Sample Delivery Groups

This data validation included review of the sample delivery groups (SDGs) listed below in Table 1.

TABLE 1. SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDG	Samples Validated
590-8192-1	SM-1 (0.5-1.0):031618, SM-3 (0.5-1.0):031618, HSP-1 (0.5-1.0):031618
590-8192-2	SM-2 (0.5-1.0):031618, SM-4 (0.5-1.0):031618, HSP-2 (0.5-1.0):031618
590-8243-1	HSP-SP1:032818, HSP-SP2:032818
590-8653-1	HSP-3C:060518, HSP-DUP:060518, HSP-4C:060518, HSP-5C:060518, HSP-6C:060518, HSP-7C:060518, HSP-8C:060518, HSP-9C:060518
590-8935-1	USPTP-1 (2-2.5)
590-9012-1	HSP-TP1:073018, Trip Blank
590-9164-1	HSP-TP2-081618, HSP-TP2-DUP-081618, Trip Blank
590-9164-2	HSP-SP1-081618
590-9193-1	USPAR-1 (4.5-5), USPAR-2 (5.5-6), USPAR-3 (5-5.5), USPAR-4 (5.5-6), USPAR-5 (5-5.5), USPAR-6 (5-5.5), DUP, TB
590-9244-1	HSP-10C (1-2), HSP-11C (1-2), HSP-12C (1-2), HSP-13C (1-2), HSP-14C (1-2), DUP-082818
590-9456-1	HSP-15C (7)

Chemical Analysis Performed

TestAmerica Laboratories, Inc. (TestAmerica), located in Spokane Valley, Washington, performed laboratory analyses on the samples using one or more of the following methods:

- Hydrocarbon Identification (NWTPH-HCID) by Method NWTPH-HCID;
- Gasoline-range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- Petroleum Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;
- Volatile Organic Compounds (VOCs) by Method SW8260C;
- Polycyclic Aromatic Hydrocarbons (PAHs) by Method SW8270D-SIM; and
- Total Metals by Method EPA6010C/7471B

Data Validation Summary

The results for each of the QC elements are summarized below.

Data Package Completeness

TestAmerica provided the required deliverables for the data validation according to the National Functional Guidelines. The laboratory followed adequate corrective action processes and the identified anomalies were discussed in the relevant laboratory case narrative.

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. The COCs were accurate and complete when submitted to the laboratory.

The following was noted on the laboratory sample receipt forms:

SDG 590-8243-1: The laboratory noted that the sample jars for Samples HSP-SP1:032818 and HSP-SP2:032818 were composited by the laboratory for each respective sample, as requested the COC, on 3/28/2018.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for each analysis. The sample coolers arrived at the laboratory within the appropriate temperatures of between 2 and 6 degrees Celsius, with the exceptions noted below.

SDG 590-8653-1: The sample cooler temperature recorded at the laboratory was 1.6 degrees Celsius. It was determined through professional judgment that since the samples were not frozen, this temperature should not affect the sample analytical results.

SDG 590-8935-1: The sample cooler temperature recorded at the laboratory was 7.1 degrees Celsius. It was determined through professional judgment that since the samples were received on ice at the laboratory the same day they were collected, and the cooling process had begun, this temperature should likely not affect the sample analytical results.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the organic analytes of interest, but unlikely to be found in an environmental sample. Surrogates are used for organic analyses and are added to the samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added to the samples at a known concentration and percent recoveries are calculated following analysis. The surrogate percent recoveries for field samples were within the laboratory control limits, with the following exceptions:

SDG 590-8653-1: (NWTPH-HCID) The percent recovery for surrogate o-Terphenyl was greater than the control limits in Sample HSP-9C:060518. The positive results for diesel- and lube oil-range hydrocarbons were qualified as estimated (J) in this sample. There were no positive results for gasoline-range hydrocarbons in this sample; therefore, no qualification was required.

SDG 590-9012-1: (NWTPH-Dx) The percent recovery for surrogate o-Terphenyl was greater than the control limits in Sample HSP-TP1:073018. The positive results for diesel- and lube oil-range hydrocarbons were qualified as estimated (J) in this sample.

SDG 590-9244-1: (PAHs) The percent recovery for surrogate p-Terphenyl-d14 was less than the control limits in Sample HSP-14C (1-2); however, the sample was spiked with two additional surrogates, each within the control limits. No action was required for this outlier.

Method and Trip Blanks

Method Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For each sample batch, method blanks for the applicable methods were analyzed at the required frequency. None of the analytes of interest were detected in the method blanks.

Trip Blanks

Trip blanks are analyzed to provide an indication as to whether volatile compounds have cross-contaminated other like samples within the transportation process to the laboratory. None of the analytes of interest were detected in the trip blanks, with the following exception:

SDG 590-9164-1: (VOCs) There was a positive result for methylene chloride detected in the trip blank. There were no positive results for this target analyte in the associated field samples; therefore, no qualifications were required.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for each analysis and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG 590-8653-1: (Total Metals) The laboratory performed an MS/MSD sample set on Sample HSP-3C:060518. The percent recovery for total lead was greater than the control limits in the MSD digested on 6/7/2018; however, the percent recovery for this target analyte was within the control limits in the corresponding MS. No action was required for this outlier.

SDG 590-9164-2: (PAHs) The laboratory performed an MS/MSD sample set on Sample HSP-SP1-081618. The RPD for benzo[b]fluoranthene was greater than the control limit in the MS/MSD sample set extracted on 8/21/2018. The positive result for benzo[b]fluoranthene was qualified as estimated (J) in Sample HSP-SP1-081618.

Additionally, in the same MS/MSD sample set, the percent recoveries for benzo[a]pyrene and benzo[b]fluoranthene were greater than the control limits in the MS and the percent recovery for

benzo[g,h,i]perylene was less than the control limit in the MSD; however, the percent recoveries for these target analytes were within the control limits in the corresponding MSD and MS. No action was required for these outliers.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG 590-9012-1: (VOCs) The percent recovery for 2,2-Dichloropropane was greater than the control limits in the LCS extracted on 8/1/2018. There were no positive results for this target analyte in the associated field sample; therefore, no qualification was required.

SDG 590-9164-1: (VOCs) The percent recovery for naphthalene was greater than the control limits in the LCS extracted on 8/20/2018. There were no positive results for this target analyte in the associated field samples; therefore, no qualifications were required.

Laboratory Duplicates

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. The RPD control limits are specified in the laboratory documents. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met, with the following exception:

SDG 590-8653-1: (Total Metals) The laboratory performed a laboratory duplicate sample set on Sample HSP-3C:060518. The RPD for total lead was greater than the control limit in the laboratory duplicate sample set digested on 6/7/2018. The positive results for total lead were qualified as estimated (J) in Samples HSP-3C:060518 and HSP-DUP:060518.

Field Duplicates (FDs)

In order to assess precision, field duplicate samples were collected and analyzed along with the reviewed sample batches. The duplicate samples were analyzed for the same parameters as the associated parent samples. Precision is determined by calculating the RPD between each pair of samples. If one or more of the sample analytes has a concentration less than five times the reporting limit for that sample, then the absolute difference is used instead of the RPD. The RPD control limit for soil samples is 35 percent.

SDG 590-8653-1: One field duplicate sample pair, HSP-3C:060518 and HSP-DUP:060518, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair, with the exception of acenaphthene, acenaphthylene, anthracene, total arsenic, total barium, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene,

total chromium, chrysene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, total lead, phenanthrene, and pyrene. The positive results and reporting limits for these target analytes were qualified as estimated (J and UJ, accordingly) in this sample pair.

SDG 590-9164-1: One field duplicate sample pair, HSP-TP2-081618 and HSP-TP2-DUP-081618, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair, with the exception of total lead. The positive results for this target analyte were qualified as estimated (J) in this sample pair.

SDG 590-9193-1: One field duplicate sample pair, USPAR-6 (5-5.5) and DUP, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair, with the exception of total chromium. The positive results for this target analyte were qualified as estimated (J) in this sample pair.

SDG 590-9244-1: One field duplicate sample pair, HSP-14C (1-2) and DUP-082818, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair.

Miscellaneous

SDG 590-9164-1: (NWTPH-Dx) The positive results for diesel-range hydrocarbons in Samples HSP-TP2-081618 and HSP-TP2-DUP-081618 may be influenced by the relative concentration of lube oil-range hydrocarbons in the samples. For this reason, the positive results for diesel-range hydrocarbons were qualified as estimated (J) in these samples, in order to signify a potential high bias.

SDG 590-9193-1: (NWTPH-Dx) The positive results for diesel-range hydrocarbons in Samples USPAR-1 (4.5-5), USPAR-2 (5.5-6), USPAR-3 (5-5.5), USPAR-4 (5.5-6), USPAR-5 (5-5.5), USPAR-6 (5-5.5), and DUP may be influenced by the relative concentration of lube oil-range hydrocarbons in the samples. For this reason, the positive results for diesel-range hydrocarbons were qualified as estimated (J) in these samples, in order to signify a potential high bias.

Overall Assessment

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD percent recovery values, with the exceptions noted above. Precision was acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and laboratory/field duplicate RPD values, with the exceptions noted above.

The data are acceptable for the intended use, with the following qualifications listed below in Table 2.

TABLE 2. SUMMARY OF QUALIFIED SAMPLES

Sample ID	Analyte	Qualifier	Reason
HSP-3C:060518	Acenaphthene	UJ	Field Duplicate RPD
	Acenaphthylene	UJ	Field Duplicate RPD
	Anthracene	UJ	Field Duplicate RPD
	Total arsenic	J	Field Duplicate RPD
	Total barium	J	Field Duplicate RPD
	Benzo[a]anthracene	UJ	Field Duplicate RPD
	Benzo[a]pyrene	J	Field Duplicate RPD
	Benzo[b]fluoranthene	J	Field Duplicate RPD
	Benzo[g,h,i]perylene	J	Field Duplicate RPD
	Benzo[k]fluoranthene	UJ	Field Duplicate RPD
	Total chromium	J	Field Duplicate RPD
	Chrysene	J	Field Duplicate RPD
	Fluoranthene	J	Field Duplicate RPD
	Fluorene	UJ	Field Duplicate RPD
	Indeno[1,2,3-cd]pyrene	UJ	Field Duplicate RPD
	Total lead	J	Laboratory and Field Duplicate RPD
	Phenanthrene	UJ	Field Duplicate RPD
	Pyrene	J	Field Duplicate RPD
HSP-DUP:060518	Acenaphthene	J	Field Duplicate RPD
	Acenaphthylene	J	Field Duplicate RPD
	Anthracene	J	Field Duplicate RPD
	Total arsenic	J	Field Duplicate RPD
	Total barium	J	Field Duplicate RPD
	Benzo[a]anthracene	J	Field Duplicate RPD
	Benzo[a]pyrene	J	Field Duplicate RPD
	Benzo[b]fluoranthene	J	Field Duplicate RPD
	Benzo[g,h,i]perylene	J	Field Duplicate RPD
	Benzo[k]fluoranthene	J	Field Duplicate RPD
	Total chromium	J	Field Duplicate RPD
	Chrysene	J	Field Duplicate RPD
	Fluoranthene	J	Field Duplicate RPD
	Fluorene	J	Field Duplicate RPD
	Indeno[1,2,3-cd]pyrene	J	Field Duplicate RPD
	Total lead	J	Laboratory and Field Duplicate RPD
	Phenanthrene	J	Field Duplicate RPD
	Pyrene	J	Field Duplicate RPD
HSP-9C:060518	Diesel-range hydrocarbons	J	Surrogate Recovery
	Lube oil-range hydrocarbons	J	Surrogate Recovery
HSP-SP1-081618	Benzo[b]fluoranthene	J	MS/MSD RPD
HSP-TP1:073018	Diesel-range hydrocarbons	J	Surrogate Recovery
	Lube oil-range hydrocarbons	J	Surrogate Recovery
HSP-TP2-081618	Diesel-range hydrocarbons	J	See Miscellaneous
	Total lead	J	Field Duplicate RPD
HSP-TP2-DUP-081618	Diesel-range hydrocarbons	J	See Miscellaneous
	Total lead	J	Field Duplicate RPD
USPAR-1 (4.5-5)	Diesel-range hydrocarbons	J	See Miscellaneous
USPAR-2 (5.5-6)	Diesel-range hydrocarbons	J	See Miscellaneous
USPAR-3 (5-5.5)	Diesel-range hydrocarbons	J	See Miscellaneous

Sample ID	Analyte	Qualifier	Reason
USPAR-4 (5.5-6)	Diesel-range hydrocarbons	J	See Miscellaneous
USPAR-5 (5-5.5)	Diesel-range hydrocarbons	J	See Miscellaneous
USPAR-6 (5-5.5)	Total chromium	J	Field Duplicate RPD
	Diesel-range hydrocarbons	J	See Miscellaneous
DUP	Total chromium	J	Field Duplicate RPD
	Diesel-range hydrocarbons	J	See Miscellaneous

References

GeoEngineers, Inc. "Work Plan, Riverfront Park Geotechnical and Environmental Services," prepared for City of Spokane. April 1, 2016.

U.S. Environmental Protection Agency (USEPA). "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use," EPA-540-R-08-005. January 2009.

U.S. Environmental Protection Agency (USEPA), 2016a. "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," EPA-540-R-2016-002. September 2016.

U.S. Environmental Protection Agency (USEPA), 2016b. "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," EPA-540-R-2016-001. September 2016.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-8192-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski

Authorized for release by:
3/19/2018 5:10:54 PM

Randee Arrington, Project Manager II
(509)924-9200
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Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-1

Job ID: 590-8192-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 3/16/2018 11:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-8192-1	SM-1 (0.5-1.0):031618	Solid	03/16/18 09:18	03/16/18 11:00
590-8192-3	SM-3 (0.5-1.0):031618	Solid	03/16/18 09:40	03/16/18 11:00
590-8192-5	HSP-1 (0.5-1.0):031618	Solid	03/16/18 09:30	03/16/18 11:00

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-1

Client Sample ID: SM-1 (0.5-1.0):031618
Date Collected: 03/16/18 09:18
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-1
Matrix: Solid
Percent Solids: 93.1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Acenaphthylene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Acenaphthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Fluorene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Phenanthrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Benzo[a]anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Chrysene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Benzo[b]fluoranthene	**12**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Benzo[k]fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Benzo[a]pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Indeno[1,2,3-cd]pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Dibenz(a,h)anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1
Benzo[g,h,i]perylene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*23 - 120*	*03/16/18 15:36*	*03/16/18 18:20*	*1*
2-Fluorobiphenyl (Surr)	*69*		*38 - 123*	*03/16/18 15:36*	*03/16/18 18:20*	*1*
p-Terphenyl-d14	*90*		*68 - 136*	*03/16/18 15:36*	*03/16/18 18:20*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	03/16/18 11:58	03/16/18 13:20	1
Diesel Range Organics (DRO) (C10-C25)	ND		52		mg/Kg	☼	03/16/18 11:58	03/16/18 13:20	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg	☼	03/16/18 11:58	03/16/18 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*03/16/18 11:58*	*03/16/18 13:20*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*03/16/18 11:58*	*03/16/18 13:20*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**14**		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 13:47	2
Barium	**59**		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 13:47	2
Cadmium	ND		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 13:47	2
Chromium	**11**		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 13:47	2
Lead	**6.8**		5.8		mg/Kg	☼	03/16/18 11:16	03/19/18 13:47	2
Selenium	ND		9.6		mg/Kg	☼	03/16/18 11:16	03/19/18 13:47	2
Silver	ND		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 13:47	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		33		ug/Kg	☼	03/19/18 09:52	03/19/18 16:32	1

Client Sample ID: SM-3 (0.5-1.0):031618
Date Collected: 03/16/18 09:40
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-3
Matrix: Solid
Percent Solids: 87.1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Acenaphthylene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Acenaphthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Fluorene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Phenanthrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Benzo[a]anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Chrysene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Benzo[b]fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Benzo[k]fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Benzo[a]pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Indeno[1,2,3-cd]pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Dibenz(a,h)anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1
Benzo[g,h,i]perylene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*83*		*23 - 120*	*03/16/18 15:36*	*03/16/18 19:13*	*1*
2-Fluorobiphenyl (Surr)	*76*		*38 - 123*	*03/16/18 15:36*	*03/16/18 19:13*	*1*
p-Terphenyl-d14	*100*		*68 - 136*	*03/16/18 15:36*	*03/16/18 19:13*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		27		mg/Kg	☼	03/16/18 11:58	03/16/18 13:58	1
Diesel Range Organics (DRO) (C10-C25)	ND		54		mg/Kg	☼	03/16/18 11:58	03/16/18 13:58	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	03/16/18 11:58	03/16/18 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*101*		*50 - 150*	*03/16/18 11:58*	*03/16/18 13:58*	*1*
n-Triacontane-d62	*104*		*50 - 150*	*03/16/18 11:58*	*03/16/18 13:58*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**24**		2.2		mg/Kg	☼	03/16/18 11:16	03/19/18 14:18	2
Barium	**68**		2.2		mg/Kg	☼	03/16/18 11:16	03/19/18 14:18	2
Cadmium	ND		2.2		mg/Kg	☼	03/16/18 11:16	03/19/18 14:18	2
Chromium	**13**		2.2		mg/Kg	☼	03/16/18 11:16	03/19/18 14:18	2
Lead	**22**		5.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:18	2
Selenium	ND		9.0		mg/Kg	☼	03/16/18 11:16	03/19/18 14:18	2
Silver	ND		2.2		mg/Kg	☼	03/16/18 11:16	03/19/18 14:18	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		31		ug/Kg	☼	03/19/18 09:52	03/19/18 16:37	1

Client Sample ID: HSP-1 (0.5-1.0):031618
Date Collected: 03/16/18 09:30
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-5
Matrix: Solid
Percent Solids: 91.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Acenaphthylene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Acenaphthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Fluorene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Phenanthrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Benzo[a]anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Chrysene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Benzo[b]fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Benzo[k]fluoranthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Benzo[a]pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Indeno[1,2,3-cd]pyrene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Dibenz(a,h)anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1
Benzo[g,h,i]perylene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*92*		*23 - 120*	*03/16/18 15:36*	*03/16/18 20:06*	*1*
2-Fluorobiphenyl (Surr)	*77*		*38 - 123*	*03/16/18 15:36*	*03/16/18 20:06*	*1*
p-Terphenyl-d14	*97*		*68 - 136*	*03/16/18 15:36*	*03/16/18 20:06*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	03/16/18 11:58	03/16/18 14:37	1
Diesel Range Organics (DRO) (C10-C25)	ND		53		mg/Kg	☼	03/16/18 11:58	03/16/18 14:37	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	03/16/18 11:58	03/16/18 14:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*03/16/18 11:58*	*03/16/18 14:37*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*03/16/18 11:58*	*03/16/18 14:37*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**16**		1.8		mg/Kg	☼	03/16/18 11:16	03/19/18 14:24	2
Barium	**61**		1.8		mg/Kg	☼	03/16/18 11:16	03/19/18 14:24	2
Cadmium	ND		1.8		mg/Kg	☼	03/16/18 11:16	03/19/18 14:24	2
Chromium	**11**		1.8		mg/Kg	☼	03/16/18 11:16	03/19/18 14:24	2
Lead	**7.1**		4.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:24	2
Selenium	ND		7.3		mg/Kg	☼	03/16/18 11:16	03/19/18 14:24	2
Silver	ND		1.8		mg/Kg	☼	03/16/18 11:16	03/19/18 14:24	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		30		ug/Kg	☼	03/19/18 09:52	03/19/18 16:46	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-16007/1-A
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
2-Methylnaphthalene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
1-Methylnaphthalene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Acenaphthylene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Acenaphthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Fluorene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Phenanthrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Anthracene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Fluoranthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Pyrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[a]anthracene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Chrysene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[b]fluoranthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[k]fluoranthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[a]pyrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*88*		*23 - 120*	*03/16/18 15:36*	*03/16/18 16:34*	*1*
2-Fluorobiphenyl (Surr)	*68*		*38 - 123*	*03/16/18 15:36*	*03/16/18 16:34*	*1*
p-Terphenyl-d14	*89*		*68 - 136*	*03/16/18 15:36*	*03/16/18 16:34*	*1*

Lab Sample ID: LCS 590-16007/2-A
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	198		ug/Kg		74	41 - 121
2-Methylnaphthalene	267	191		ug/Kg		72	39 - 132
1-Methylnaphthalene	267	206		ug/Kg		77	46 - 131
Acenaphthylene	267	187		ug/Kg		70	56 - 123
Acenaphthene	267	182		ug/Kg		68	43 - 140
Fluorene	267	224		ug/Kg		84	54 - 131
Phenanthrene	267	233		ug/Kg		87	55 - 141
Anthracene	267	238		ug/Kg		89	60 - 129
Fluoranthene	267	246		ug/Kg		92	63 - 141
Pyrene	267	224		ug/Kg		84	62 - 139
Benzo[a]anthracene	267	232		ug/Kg		87	61 - 136
Chrysene	267	234		ug/Kg		88	57 - 144
Benzo[b]fluoranthene	267	230		ug/Kg		86	66 - 141
Benzo[k]fluoranthene	267	250		ug/Kg		94	63 - 150
Benzo[a]pyrene	267	226		ug/Kg		85	60 - 133
Indeno[1,2,3-cd]pyrene	267	245		ug/Kg		92	55 - 142
Dibenz(a,h)anthracene	267	243		ug/Kg		91	60 - 150
Benzo[g,h,i]perylene	267	249		ug/Kg		93	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-16007/2-A
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16007

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	88		23 - 120
2-Fluorobiphenyl (Surr)	70		38 - 123
p-Terphenyl-d14	93		68 - 136

Lab Sample ID: 590-8192-1 MS
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: SM-1 (0.5-1.0):031618
Prep Type: Total/NA
Prep Batch: 16007

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		277	167		ug/Kg	☼	60	41 - 121
2-Methylnaphthalene	ND		277	180		ug/Kg	☼	65	39 - 132
1-Methylnaphthalene	ND		277	184		ug/Kg	☼	66	46 - 131
Acenaphthylene	ND		277	196		ug/Kg	☼	71	56 - 123
Acenaphthene	ND		277	183		ug/Kg	☼	66	43 - 140
Fluorene	ND		277	216		ug/Kg	☼	78	54 - 131
Phenanthrene	ND		277	231		ug/Kg	☼	82	55 - 141
Anthracene	ND		277	234		ug/Kg	☼	84	60 - 129
Fluoranthene	ND		277	231		ug/Kg	☼	80	63 - 141
Pyrene	ND		277	229		ug/Kg	☼	79	62 - 139
Benzo[a]anthracene	ND		277	226		ug/Kg	☼	80	61 - 136
Chrysene	ND		277	233		ug/Kg	☼	82	57 - 144
Benzo[b]fluoranthene	12		277	216		ug/Kg	☼	74	66 - 141
Benzo[k]fluoranthene	ND		277	229		ug/Kg	☼	81	63 - 150
Benzo[a]pyrene	ND		277	225		ug/Kg	☼	78	60 - 133
Indeno[1,2,3-cd]pyrene	ND		277	227		ug/Kg	☼	79	55 - 142
Dibenz(a,h)anthracene	ND		277	231		ug/Kg	☼	82	60 - 150
Benzo[g,h,i]perylene	ND		277	240		ug/Kg	☼	83	58 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Nitrobenzene-d5	80		23 - 120
2-Fluorobiphenyl (Surr)	71		38 - 123
p-Terphenyl-d14	92		68 - 136

Lab Sample ID: 590-8192-1 MSD
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: SM-1 (0.5-1.0):031618
Prep Type: Total/NA
Prep Batch: 16007

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		275	186		ug/Kg	☼	68	41 - 121	11	35
2-Methylnaphthalene	ND		275	198		ug/Kg	☼	72	39 - 132	9	35
1-Methylnaphthalene	ND		275	212		ug/Kg	☼	77	46 - 131	15	35
Acenaphthylene	ND		275	192		ug/Kg	☼	70	56 - 123	2	35
Acenaphthene	ND		275	182		ug/Kg	☼	66	43 - 140	1	35
Fluorene	ND		275	208		ug/Kg	☼	76	54 - 131	4	35
Phenanthrene	ND		275	223		ug/Kg	☼	80	55 - 141	3	35
Anthracene	ND		275	229		ug/Kg	☼	83	60 - 129	2	35
Fluoranthene	ND		275	225		ug/Kg	☼	79	63 - 141	2	35
Pyrene	ND		275	227		ug/Kg	☼	79	62 - 139	1	35

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 590-8192-1 MSD
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: SM-1 (0.5-1.0):031618
Prep Type: Total/NA
Prep Batch: 16007

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	ND		275	224		ug/Kg	☼	79	61 - 136	1	35
Chrysene	ND		275	224		ug/Kg	☼	79	57 - 144	4	35
Benzo[b]fluoranthene	12		275	222		ug/Kg	☼	76	66 - 141	3	35
Benzo[k]fluoranthene	ND		275	220		ug/Kg	☼	78	63 - 150	4	35
Benzo[a]pyrene	ND		275	220		ug/Kg	☼	77	60 - 133	2	35
Indeno[1,2,3-cd]pyrene	ND		275	227		ug/Kg	☼	80	55 - 142	0	35
Dibenz(a,h)anthracene	ND		275	225		ug/Kg	☼	81	60 - 150	3	35
Benzo[g,h,i]perylene	ND		275	228		ug/Kg	☼	79	58 - 147	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Nitrobenzene-d5	*82*		*23 - 120*
2-Fluorobiphenyl (Surr)	*67*		*38 - 123*
p-Terphenyl-d14	*92*		*68 - 136*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 590-16005/1-A
Matrix: Solid
Analysis Batch: 16004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16005

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg		03/16/18 11:58	03/16/18 12:42	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg		03/16/18 11:58	03/16/18 12:42	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg		03/16/18 11:58	03/16/18 12:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*103*		*50 - 150*	*03/16/18 11:58*	*03/16/18 12:42*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*03/16/18 11:58*	*03/16/18 12:42*	*1*

Lab Sample ID: 590-8192-1 DU
Matrix: Solid
Analysis Batch: 16004

Client Sample ID: SM-1 (0.5-1.0):031618
Prep Type: Total/NA
Prep Batch: 16005

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND			ND		mg/Kg	☼			NC	25
Diesel Range Organics (DRO) (C10-C25)	ND			ND		mg/Kg	☼			NC	25
Residual Range Organics (RRO) (C25-C36)	ND			ND		mg/Kg	☼			NC	25

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*92*		*50 - 150*
n-Triacontane-d62	*80*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-16001/2-A
Matrix: Solid
Analysis Batch: 16013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16001

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Barium	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Cadmium	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Chromium	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Lead	ND		3.0		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Selenium	ND		5.0		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Silver	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1

Lab Sample ID: LCS 590-16001/1-A
Matrix: Solid
Analysis Batch: 16013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16001

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	49.6		mg/Kg		99	80 - 120
Barium	50.0	51.3		mg/Kg		103	80 - 120
Cadmium	50.0	50.3		mg/Kg		101	80 - 120
Chromium	50.0	51.2		mg/Kg		102	80 - 120
Lead	50.0	51.2		mg/Kg		102	80 - 120
Selenium	50.0	49.0		mg/Kg		98	80 - 120
Silver	50.0	50.0		mg/Kg		100	80 - 120

Lab Sample ID: 590-8192-1 MS
Matrix: Solid
Analysis Batch: 16013

Client Sample ID: SM-1 (0.5-1.0):031618
Prep Type: Total/NA
Prep Batch: 16001

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	14		49.7	60.0		mg/Kg	☼	93	75 - 125
Barium	59		49.7	113		mg/Kg	☼	108	75 - 125
Cadmium	ND		49.7	47.8		mg/Kg	☼	96	75 - 125
Chromium	11		49.7	57.8		mg/Kg	☼	94	75 - 125
Lead	6.8		49.7	52.4		mg/Kg	☼	92	75 - 125
Selenium	ND		49.7	40.9		mg/Kg	☼	82	75 - 125
Silver	ND		49.7	47.9		mg/Kg	☼	96	75 - 125

Lab Sample ID: 590-8192-1 MSD
Matrix: Solid
Analysis Batch: 16013

Client Sample ID: SM-1 (0.5-1.0):031618
Prep Type: Total/NA
Prep Batch: 16001

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	14		55.9	67.9		mg/Kg	☼	97	75 - 125	12	20
Barium	59		55.9	116		mg/Kg	☼	102	75 - 125	3	20
Cadmium	ND		55.9	55.1		mg/Kg	☼	98	75 - 125	14	20
Chromium	11		55.9	65.3		mg/Kg	☼	97	75 - 125	12	20
Lead	6.8		55.9	60.3		mg/Kg	☼	96	75 - 125	14	20
Selenium	ND		55.9	47.6		mg/Kg	☼	85	75 - 125	15	20
Silver	ND		55.9	55.2		mg/Kg	☼	99	75 - 125	14	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 590-8192-1 DU
Matrix: Solid
Analysis Batch: 16013

Client Sample ID: SM-1 (0.5-1.0):031618
Prep Type: Total/NA
Prep Batch: 16001

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Arsenic	14			13.8		mg/Kg	☼			0.4	20
Barium	59			56.8		mg/Kg	☼			4	20
Cadmium	ND			ND		mg/Kg	☼			NC	20
Chromium	11			10.7		mg/Kg	☼			1	20
Lead	6.8			6.93		mg/Kg	☼			2	20
Selenium	ND			ND		mg/Kg	☼			NC	20
Silver	ND			ND		mg/Kg	☼			NC	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-16010/9-A
Matrix: Solid
Analysis Batch: 16018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16010

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		03/19/18 09:52	03/19/18 15:47	1

Lab Sample ID: LCS 590-16010/8-A
Matrix: Solid
Analysis Batch: 16018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16010

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg			200	196		ug/Kg		98	80 - 120		

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-1

Client Sample ID: SM-1 (0.5-1.0):031618
Date Collected: 03/16/18 09:18
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16002	03/16/18 11:22	NMI	TAL SPK

Client Sample ID: SM-1 (0.5-1.0):031618
Date Collected: 03/16/18 09:18
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-1
Matrix: Solid
Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.16 g	2 mL	16007	03/16/18 15:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16003	03/16/18 18:20	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.23 g	20 mL	16005	03/16/18 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16004	03/16/18 13:20	NMI	TAL SPK
Total/NA	Prep	3050B			1.12 g	50 mL	16001	03/16/18 11:16	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16013	03/19/18 13:47	JSP	TAL SPK
Total/NA	Prep	7471B			0.81 g	50 mL	16010	03/19/18 09:52	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16018	03/19/18 16:32	JSP	TAL SPK

Client Sample ID: SM-3 (0.5-1.0):031618
Date Collected: 03/16/18 09:40
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16002	03/16/18 11:22	NMI	TAL SPK

Client Sample ID: SM-3 (0.5-1.0):031618
Date Collected: 03/16/18 09:40
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-3
Matrix: Solid
Percent Solids: 87.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.13 g	2 mL	16007	03/16/18 15:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16003	03/16/18 19:13	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.69 g	20 mL	16005	03/16/18 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16004	03/16/18 13:58	NMI	TAL SPK
Total/NA	Prep	3050B			1.28 g	50 mL	16001	03/16/18 11:16	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16013	03/19/18 14:18	JSP	TAL SPK
Total/NA	Prep	7471B			0.93 g	50 mL	16010	03/19/18 09:52	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16018	03/19/18 16:37	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-1

Client Sample ID: HSP-1 (0.5-1.0):031618

Lab Sample ID: 590-8192-5

Date Collected: 03/16/18 09:30

Matrix: Solid

Date Received: 03/16/18 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16002	03/16/18 11:22	NMI	TAL SPK

Client Sample ID: HSP-1 (0.5-1.0):031618

Lab Sample ID: 590-8192-5

Date Collected: 03/16/18 09:30

Matrix: Solid

Date Received: 03/16/18 11:00

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.01 g	2 mL	16007	03/16/18 15:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16003	03/16/18 20:06	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.41 g	20 mL	16005	03/16/18 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16004	03/16/18 14:37	NMI	TAL SPK
Total/NA	Prep	3050B			1.49 g	50 mL	16001	03/16/18 11:16	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16013	03/19/18 14:24	JSP	TAL SPK
Total/NA	Prep	7471B			0.91 g	50 mL	16010	03/19/18 09:52	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16018	03/19/18 16:46	JSP	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-1

Laboratory: TestAmerica Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids
NWTPH-HCID	NWTPH-HCID	Solid	Diesel Range Organics (DRO) (C10-C25)
NWTPH-HCID	NWTPH-HCID	Solid	Gasoline Range Organics [C6 - C10]
NWTPH-HCID	NWTPH-HCID	Solid	Residual Range Organics (RRO) (C25-C36)

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-HCID	Northwest - Hydrocarbon Identification (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

CHAIN OF CUSTODY RECORD

GeoEngineers
523 EAST SECOND AVE.
SPOKANE, WASHINGTON 99202
(509) 363-3125

DATE 3/16/18
PAGE 1 OF 1
LAB TestAmerica
LAB NO.

PROJECT NAME/LOCATION Riverfront Park
PROJECT NUMBER 0110-148-06
PROJECT MANAGER J.R Sugalski; jsugalski@geoengineers.com
SAMPLED BY Justin Rice

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED												NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	HCID	RCRA 8 metals	PAHs										(Preserved, filtered, etc.)
	SM-1(0.5-1.0)-031618	3/16/18	0918	S	2	x	x	x										24-hr TAT
	SM-2(0.5-1.0)-031618	3/16/18	0925	S	2	x	x	x										72-hr TAT
	SM-3(0.5-1.0)-031618	3/16/18	0940	S	2	x	x	x										24 hr TAT
	SM-4(0.5-1.0)-031618	3/16/18	0945	S	2	x	x	x										72-hr TAT
	HSP-1(0.5-1.0)-031618	3/16/18	0930	S	2	x	x	x										24 hr TAT
	HSP-2(0.5-1.0)-031618	3/16/18	0933	S	2	x	x	x										>72-hr TAT

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GEI	SIGNATURE	GEI	SIGNATURE	
PRINTED NAME Justin Rice		PRINTED NAME Jedidiah Sugalski		PRINTED NAME	
DATE 3/16/18 TIME 1030		DATE 3/16/18 TIME 1058		DATE TIME	
RECEIVED BY JR Sugalski	**FIRM** GEI	**RECEIVED BY**	**FIRM** TAOMPO	**RECEIVED BY**	**FIRM**
SIGNATURE		SIGNATURE Sheila Kratz		SIGNATURE	
PRINTED NAME JR Sugalski		PRINTED NAME Sheila Kratz		PRINTED NAME	
DATE 3/16/18 TIME 1030		DATE 3/16/18 TIME 1100		DATE TIME	

ADDITIONAL COMMENTS: 2.3°C IR004

590-8192 Chain of Custody

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-8192-1

Login Number: 8192
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-8192-2
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski

Randee Arrington

Authorized for release by:
3/20/2018 1:09:47 PM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-2

Job ID: 590-8192-2

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 3/16/2018 11:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-8192-2	SM-2 (0.5-1.0):031618	Solid	03/16/18 09:25	03/16/18 11:00
590-8192-4	SM-4 (0.5-1.0):031618	Solid	03/16/18 09:45	03/16/18 11:00
590-8192-6	HSP-2 (0.5-1.0):031618	Solid	03/16/18 09:33	03/16/18 11:00

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: SM-2 (0.5-1.0):031618

Date Collected: 03/16/18 09:25
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-2

Matrix: Solid
Percent Solids: 93.3

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Acenaphthylene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Acenaphthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Fluorene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Phenanthrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Anthracene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Fluoranthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Pyrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Benzo[a]anthracene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Chrysene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Benzo[b]fluoranthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Benzo[k]fluoranthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Benzo[a]pyrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1
Benzo[g,h,i]perylene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*23 - 120*	*03/16/18 15:36*	*03/16/18 18:46*	*1*
2-Fluorobiphenyl (Surr)	*73*		*38 - 123*	*03/16/18 15:36*	*03/16/18 18:46*	*1*
p-Terphenyl-d14	*90*		*68 - 136*	*03/16/18 15:36*	*03/16/18 18:46*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	03/16/18 11:58	03/16/18 13:39	1
Diesel Range Organics (DRO) (C10-C25)	ND		51		mg/Kg	☼	03/16/18 11:58	03/16/18 13:39	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg	☼	03/16/18 11:58	03/16/18 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*03/16/18 11:58*	*03/16/18 13:39*	*1*
n-Triacontane-d62	*87*		*50 - 150*	*03/16/18 11:58*	*03/16/18 13:39*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**16**		2.3		mg/Kg	☼	03/16/18 11:16	03/19/18 14:07	2
Barium	**77**		2.3		mg/Kg	☼	03/16/18 11:16	03/19/18 14:07	2
Cadmium	ND		2.3		mg/Kg	☼	03/16/18 11:16	03/19/18 14:07	2
Chromium	**13**		2.3		mg/Kg	☼	03/16/18 11:16	03/19/18 14:07	2
Lead	**20**		5.6		mg/Kg	☼	03/16/18 11:16	03/19/18 14:07	2
Selenium	ND		9.3		mg/Kg	☼	03/16/18 11:16	03/19/18 14:07	2
Silver	ND		2.3		mg/Kg	☼	03/16/18 11:16	03/19/18 14:07	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		35		ug/Kg	☼	03/19/18 09:52	03/19/18 16:34	1

Client Sample ID: SM-4 (0.5-1.0):031618
Date Collected: 03/16/18 09:45
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-4
Matrix: Solid
Percent Solids: 88.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Acenaphthylene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Acenaphthene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Fluorene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Phenanthrene	**40**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Anthracene	**13**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Fluoranthene	**67**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Pyrene	**71**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Benzo[a]anthracene	**36**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Chrysene	**46**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Benzo[b]fluoranthene	**61**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Benzo[k]fluoranthene	**20**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Benzo[a]pyrene	**47**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Indeno[1,2,3-cd]pyrene	**30**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Dibenz(a,h)anthracene	ND		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1
Benzo[g,h,i]perylene	**41**		11		ug/Kg	☼	03/16/18 15:36	03/16/18 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*94*		*23 - 120*	*03/16/18 15:36*	*03/16/18 19:40*	*1*
2-Fluorobiphenyl (Surr)	*75*		*38 - 123*	*03/16/18 15:36*	*03/16/18 19:40*	*1*
p-Terphenyl-d14	*96*		*68 - 136*	*03/16/18 15:36*	*03/16/18 19:40*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		27		mg/Kg	☼	03/16/18 11:58	03/16/18 14:17	1
Diesel Range Organics (DRO) (C10-C25)	ND		55		mg/Kg	☼	03/16/18 11:58	03/16/18 14:17	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	03/16/18 11:58	03/16/18 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*03/16/18 11:58*	*03/16/18 14:17*	*1*
n-Triacontane-d62	*94*		*50 - 150*	*03/16/18 11:58*	*03/16/18 14:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**13**		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:21	2
Barium	**81**		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:21	2
Cadmium	ND		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:21	2
Chromium	**12**		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:21	2
Lead	**270**		5.6		mg/Kg	☼	03/16/18 11:16	03/19/18 14:21	2
Selenium	ND		9.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:21	2
Silver	ND		2.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:21	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**130**		25		ug/Kg	☼	03/19/18 09:52	03/19/18 16:39	1

Client Sample ID: HSP-2 (0.5-1.0):031618
Date Collected: 03/16/18 09:33
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-6
Matrix: Solid
Percent Solids: 95.3

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Acenaphthylene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Acenaphthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Fluorene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Phenanthrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Anthracene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Fluoranthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Pyrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Benzo[a]anthracene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Chrysene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Benzo[b]fluoranthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Benzo[k]fluoranthene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Benzo[a]pyrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1
Benzo[g,h,i]perylene	ND		10		ug/Kg	☼	03/16/18 15:36	03/16/18 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*70*		*23 - 120*	*03/16/18 15:36*	*03/16/18 20:32*	*1*
2-Fluorobiphenyl (Surr)	*66*		*38 - 123*	*03/16/18 15:36*	*03/16/18 20:32*	*1*
p-Terphenyl-d14	*94*		*68 - 136*	*03/16/18 15:36*	*03/16/18 20:32*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		24		mg/Kg	☼	03/16/18 11:58	03/16/18 14:56	1
Diesel Range Organics (DRO) (C10-C25)	ND		48		mg/Kg	☼	03/16/18 11:58	03/16/18 14:56	1
Residual Range Organics (RRO) (C25-C36)	ND		97		mg/Kg	☼	03/16/18 11:58	03/16/18 14:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*03/16/18 11:58*	*03/16/18 14:56*	*1*
n-Triacontane-d62	*89*		*50 - 150*	*03/16/18 11:58*	*03/16/18 14:56*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**17**		1.9		mg/Kg	☼	03/16/18 11:16	03/19/18 14:27	2
Barium	**57**		1.9		mg/Kg	☼	03/16/18 11:16	03/19/18 14:27	2
Cadmium	ND		1.9		mg/Kg	☼	03/16/18 11:16	03/19/18 14:27	2
Chromium	**10**		1.9		mg/Kg	☼	03/16/18 11:16	03/19/18 14:27	2
Lead	**6.4**		4.5		mg/Kg	☼	03/16/18 11:16	03/19/18 14:27	2
Selenium	ND		7.4		mg/Kg	☼	03/16/18 11:16	03/19/18 14:27	2
Silver	ND		1.9		mg/Kg	☼	03/16/18 11:16	03/19/18 14:27	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		37		ug/Kg	☼	03/19/18 09:52	03/19/18 16:48	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-16007/1-A
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
2-Methylnaphthalene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
1-Methylnaphthalene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Acenaphthylene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Acenaphthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Fluorene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Phenanthrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Anthracene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Fluoranthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Pyrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[a]anthracene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Chrysene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[b]fluoranthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[k]fluoranthene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[a]pyrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		03/16/18 15:36	03/16/18 16:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*88*		*23 - 120*	*03/16/18 15:36*	*03/16/18 16:34*	*1*
2-Fluorobiphenyl (Surr)	*68*		*38 - 123*	*03/16/18 15:36*	*03/16/18 16:34*	*1*
p-Terphenyl-d14	*89*		*68 - 136*	*03/16/18 15:36*	*03/16/18 16:34*	*1*

Lab Sample ID: LCS 590-16007/2-A
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	198		ug/Kg		74	41 - 121
2-Methylnaphthalene	267	191		ug/Kg		72	39 - 132
1-Methylnaphthalene	267	206		ug/Kg		77	46 - 131
Acenaphthylene	267	187		ug/Kg		70	56 - 123
Acenaphthene	267	182		ug/Kg		68	43 - 140
Fluorene	267	224		ug/Kg		84	54 - 131
Phenanthrene	267	233		ug/Kg		87	55 - 141
Anthracene	267	238		ug/Kg		89	60 - 129
Fluoranthene	267	246		ug/Kg		92	63 - 141
Pyrene	267	224		ug/Kg		84	62 - 139
Benzo[a]anthracene	267	232		ug/Kg		87	61 - 136
Chrysene	267	234		ug/Kg		88	57 - 144
Benzo[b]fluoranthene	267	230		ug/Kg		86	66 - 141
Benzo[k]fluoranthene	267	250		ug/Kg		94	63 - 150
Benzo[a]pyrene	267	226		ug/Kg		85	60 - 133
Indeno[1,2,3-cd]pyrene	267	245		ug/Kg		92	55 - 142
Dibenz(a,h)anthracene	267	243		ug/Kg		91	60 - 150
Benzo[g,h,i]perylene	267	249		ug/Kg		93	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-16007/2-A
Matrix: Solid
Analysis Batch: 16003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16007

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*88*		*23 - 120*
2-Fluorobiphenyl (Surr)	*70*		*38 - 123*
p-Terphenyl-d14	*93*		*68 - 136*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 590-16005/1-A
Matrix: Solid
Analysis Batch: 16004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16005

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg		03/16/18 11:58	03/16/18 12:42	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg		03/16/18 11:58	03/16/18 12:42	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg		03/16/18 11:58	03/16/18 12:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*103*		*50 - 150*	*03/16/18 11:58*	*03/16/18 12:42*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*03/16/18 11:58*	*03/16/18 12:42*	*1*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-16001/2-A
Matrix: Solid
Analysis Batch: 16013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16001

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Barium	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Cadmium	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Chromium	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Lead	ND		3.0		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Selenium	ND		5.0		mg/Kg		03/16/18 11:16	03/19/18 13:43	1
Silver	ND		1.3		mg/Kg		03/16/18 11:16	03/19/18 13:43	1

Lab Sample ID: LCS 590-16001/1-A
Matrix: Solid
Analysis Batch: 16013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16001

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	49.6		mg/Kg		99	80 - 120
Barium	50.0	51.3		mg/Kg		103	80 - 120
Cadmium	50.0	50.3		mg/Kg		101	80 - 120
Chromium	50.0	51.2		mg/Kg		102	80 - 120
Lead	50.0	51.2		mg/Kg		102	80 - 120
Selenium	50.0	49.0		mg/Kg		98	80 - 120
Silver	50.0	50.0		mg/Kg		100	80 - 120

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-2

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-16010/9-A
Matrix: Solid
Analysis Batch: 16018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16010

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		03/19/18 09:52	03/19/18 15:47	1

Lab Sample ID: LCS 590-16010/8-A
Matrix: Solid
Analysis Batch: 16018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16010

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg			200	196		ug/Kg		98	80 - 120		

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-2

Client Sample ID: SM-2 (0.5-1.0):031618
Date Collected: 03/16/18 09:25
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16002	03/16/18 11:22	NMI	TAL SPK

Client Sample ID: SM-2 (0.5-1.0):031618
Date Collected: 03/16/18 09:25
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-2
Matrix: Solid
Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.94 g	2 mL	16007	03/16/18 15:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16003	03/16/18 18:46	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.50 g	20 mL	16005	03/16/18 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16004	03/16/18 13:39	NMI	TAL SPK
Total/NA	Prep	3050B			1.15 g	50 mL	16001	03/16/18 11:16	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16013	03/19/18 14:07	JSP	TAL SPK
Total/NA	Prep	7471B			0.76 g	50 mL	16010	03/19/18 09:52	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16018	03/19/18 16:34	JSP	TAL SPK

Client Sample ID: SM-4 (0.5-1.0):031618
Date Collected: 03/16/18 09:45
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16002	03/16/18 11:22	NMI	TAL SPK

Client Sample ID: SM-4 (0.5-1.0):031618
Date Collected: 03/16/18 09:45
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-4
Matrix: Solid
Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.44 g	2 mL	16007	03/16/18 15:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16003	03/16/18 19:40	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.27 g	20 mL	16005	03/16/18 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16004	03/16/18 14:17	NMI	TAL SPK
Total/NA	Prep	3050B			1.20 g	50 mL	16001	03/16/18 11:16	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16013	03/19/18 14:21	JSP	TAL SPK
Total/NA	Prep	7471B			1.13 g	50 mL	16010	03/19/18 09:52	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16018	03/19/18 16:39	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-2

Client Sample ID: HSP-2 (0.5-1.0):031618

Date Collected: 03/16/18 09:33
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16002	03/16/18 11:22	NMI	TAL SPK

Client Sample ID: HSP-2 (0.5-1.0):031618

Date Collected: 03/16/18 09:33
Date Received: 03/16/18 11:00

Lab Sample ID: 590-8192-6
Matrix: Solid
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.11 g	2 mL	16007	03/16/18 15:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16003	03/16/18 20:32	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.86 g	20 mL	16005	03/16/18 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16004	03/16/18 14:56	NMI	TAL SPK
Total/NA	Prep	3050B			1.41 g	50 mL	16001	03/16/18 11:16	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16013	03/19/18 14:27	JSP	TAL SPK
Total/NA	Prep	7471B			0.71 g	50 mL	16010	03/19/18 09:52	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16018	03/19/18 16:48	JSP	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-2

Laboratory: TestAmerica Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids
NWTPH-HCID	NWTPH-HCID	Solid	Diesel Range Organics (DRO) (C10-C25)
NWTPH-HCID	NWTPH-HCID	Solid	Gasoline Range Organics [C6 - C10]
NWTPH-HCID	NWTPH-HCID	Solid	Residual Range Organics (RRO) (C25-C36)

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8192-2

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-HCID	Northwest - Hydrocarbon Identification (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

CHAIN OF CUSTODY RECORD

GeoEngineers
523 EAST SECOND AVE.
SPOKANE, WASHINGTON 99202
(509) 363-3125

DATE 3/16/18
PAGE 1 OF 1
LAB TestAmerica
LAB NO.

PROJECT NAME/LOCATION Riverfront Park
PROJECT NUMBER 0110-148-06
PROJECT MANAGER J.R Sugalski JSugalski@geoengineers.com
SAMPLED BY Justin Rice

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED												NOTES/COMMENTS (Preserved, filtered, etc.)
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	HCID	RCRA 8 metals	PAHs										
	SM-1(0.5-1.0)-031618	3/16/18	0918	S	2	X	X	X										24-hr TAT
	SM-2(0.5-1.0)-031618	3/16/18	0925	S	2	X	X	X										72-hr TAT
	SM-3(0.5-1.0)-031618	3/16/18	0940	S	2	X	X	X										24 hr TAT
	SM-4(0.5-1.0)-031618	3/16/18	0945	S	2	X	X	X										72-hr TAT
	HSP-1(0.5-1.0)-031618	3/16/18	0930	S	2	X	X	X										24 hr TAT
	HSP-2(0.5-1.0)-031618	3/16/18	0933	S	2	X	X	X										>72-hr TAT

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GEI	SIGNATURE	GEI	SIGNATURE	
PRINTED NAME Justin Rice		PRINTED NAME Jedidiah Sugalski		PRINTED NAME	
DATE 3/16/18 TIME 1030		DATE 3/16/18 TIME 1058		DATE TIME	
RECEIVED BY JR Sugalski	**FIRM** GEI	**RECEIVED BY**	**FIRM** TAOMPO	**RECEIVED BY**	**FIRM**
SIGNATURE		SIGNATURE Sheila Kratz		SIGNATURE	
PRINTED NAME JR Sugalski		PRINTED NAME Sheila Kratz		PRINTED NAME	
DATE 3/16/18 TIME 1030		DATE 3/16/18 TIME 1100		DATE TIME	

ADDITIONAL COMMENTS: 2.3°C IR004

590-8192 Chain of Custody

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-8192-2

Login Number: 8192
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-8243-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski

Authorized for release by:
4/3/2018 3:34:52 PM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8243-1

Job ID: 590-8243-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 3/28/2018 1:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7º C.

Receipt Exceptions
The following samples were composited by the laboratory on 03/28/18 as requested on the chain-of-custody: HSP-SP1:032818 (590-8243-1) and HSP-SP2:032818 (590-8243-2).

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 6010C: The Initial calibration verification low (ICVL) for analytical batch 590-16169 contained Selenium above the acceptance limit. All reported samples associated with this ICVL were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the ICVL; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8243-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-8243-1	HSP-SP1:032818	Solid	03/28/18 12:30	03/28/18 13:45
590-8243-2	HSP-SP2:032818	Solid	03/28/18 12:36	03/28/18 13:45

Definitions/Glossary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8243-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: HSP-SP1:032818

Date Collected: 03/28/18 12:30
Date Received: 03/28/18 13:45

Lab Sample ID: 590-8243-1

Matrix: Solid
Percent Solids: 93.5

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Acenaphthylene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Acenaphthene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Fluorene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Phenanthrene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Anthracene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Fluoranthene	**10**		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Pyrene	**11**		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Benzo[a]anthracene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Chrysene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Benzo[b]fluoranthene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Benzo[k]fluoranthene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Benzo[a]pyrene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1
Benzo[g,h,i]perylene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*84*		*23 - 120*	*03/30/18 11:49*	*03/30/18 15:46*	*1*
2-Fluorobiphenyl (Surr)	*82*		*38 - 123*	*03/30/18 11:49*	*03/30/18 15:46*	*1*
p-Terphenyl-d14	*109*		*68 - 136*	*03/30/18 11:49*	*03/30/18 15:46*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		27		mg/Kg	☼	03/29/18 11:05	03/29/18 12:02	1
Diesel Range Organics (DRO) (C10-C25)	ND		53		mg/Kg	☼	03/29/18 11:05	03/29/18 12:02	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	03/29/18 11:05	03/29/18 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*03/29/18 11:05*	*03/29/18 12:02*	*1*
n-Triacontane-d62	*96*		*50 - 150*	*03/29/18 11:05*	*03/29/18 12:02*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.2**		2.5		mg/Kg	☼	04/02/18 09:07	04/03/18 11:00	2
Barium	**66**		2.5		mg/Kg	☼	04/02/18 09:07	04/03/18 11:00	2
Cadmium	ND		2.5		mg/Kg	☼	04/02/18 09:07	04/03/18 11:00	2
Chromium	**16**		2.5		mg/Kg	☼	04/02/18 09:07	04/03/18 11:00	2
Lead	**15**		5.9		mg/Kg	☼	04/02/18 09:07	04/03/18 11:00	2
Selenium	ND	^	9.8		mg/Kg	☼	04/02/18 09:07	04/03/18 11:00	2
Silver	ND		2.5		mg/Kg	☼	04/02/18 09:07	04/03/18 11:00	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		21		ug/Kg	☼	04/02/18 09:37	04/03/18 10:44	1

Client Sample ID: HSP-SP2:032818
Date Collected: 03/28/18 12:36
Date Received: 03/28/18 13:45

Lab Sample ID: 590-8243-2
Matrix: Solid
Percent Solids: 93.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Acenaphthylene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Acenaphthene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Fluorene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Phenanthrene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Anthracene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Fluoranthene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Pyrene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Benzo[a]anthracene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Chrysene	**17**		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Benzo[b]fluoranthene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Benzo[k]fluoranthene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Benzo[a]pyrene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1
Benzo[g,h,i]perylene	ND		10		ug/Kg	☼	03/30/18 11:49	03/30/18 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*87*		*23 - 120*	*03/30/18 11:49*	*03/30/18 16:12*	*1*
2-Fluorobiphenyl (Surr)	*83*		*38 - 123*	*03/30/18 11:49*	*03/30/18 16:12*	*1*
p-Terphenyl-d14	*115*		*68 - 136*	*03/30/18 11:49*	*03/30/18 16:12*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	03/29/18 11:05	03/29/18 12:21	1
Diesel Range Organics (DRO) (C10-C25)	ND		53		mg/Kg	☼	03/29/18 11:05	03/29/18 12:21	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	03/29/18 11:05	03/29/18 12:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*03/29/18 11:05*	*03/29/18 12:21*	*1*
n-Triacontane-d62	*100*		*50 - 150*	*03/29/18 11:05*	*03/29/18 12:21*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.0**		2.1		mg/Kg	☼	04/02/18 09:07	04/03/18 11:13	2
Barium	**60**		2.1		mg/Kg	☼	04/02/18 09:07	04/03/18 11:13	2
Cadmium	ND		2.1		mg/Kg	☼	04/02/18 09:07	04/03/18 11:13	2
Chromium	**3.9**		2.1		mg/Kg	☼	04/02/18 09:07	04/03/18 11:13	2
Lead	**7.5**		5.2		mg/Kg	☼	04/02/18 09:07	04/03/18 11:13	2
Selenium	ND	^	8.6		mg/Kg	☼	04/02/18 09:07	04/03/18 11:13	2
Silver	ND		2.1		mg/Kg	☼	04/02/18 09:07	04/03/18 11:13	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		19		ug/Kg	☼	04/02/18 09:37	04/03/18 10:53	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-16143/1-A
Matrix: Solid
Analysis Batch: 16142

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16143

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
2-Methylnaphthalene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
1-Methylnaphthalene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Acenaphthylene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Acenaphthene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Fluorene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Phenanthrene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Anthracene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Fluoranthene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Pyrene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Benzo[a]anthracene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Chrysene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Benzo[b]fluoranthene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Benzo[k]fluoranthene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Benzo[a]pyrene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		03/30/18 11:49	03/30/18 14:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*84*		*23 - 120*	*03/30/18 11:49*	*03/30/18 14:00*	*1*
2-Fluorobiphenyl (Surr)	*70*		*38 - 123*	*03/30/18 11:49*	*03/30/18 14:00*	*1*
p-Terphenyl-d14	*99*		*68 - 136*	*03/30/18 11:49*	*03/30/18 14:00*	*1*

Lab Sample ID: LCS 590-16143/2-A
Matrix: Solid
Analysis Batch: 16142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16143

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	206		ug/Kg		77	41 - 121
2-Methylnaphthalene	267	207		ug/Kg		78	39 - 132
1-Methylnaphthalene	267	212		ug/Kg		80	46 - 131
Acenaphthylene	267	204		ug/Kg		77	56 - 123
Acenaphthene	267	213		ug/Kg		80	43 - 140
Fluorene	267	224		ug/Kg		84	54 - 131
Phenanthrene	267	240		ug/Kg		90	55 - 141
Anthracene	267	245		ug/Kg		92	60 - 129
Fluoranthene	267	242		ug/Kg		91	63 - 141
Pyrene	267	218		ug/Kg		82	62 - 139
Benzo[a]anthracene	267	236		ug/Kg		88	61 - 136
Chrysene	267	246		ug/Kg		92	57 - 144
Benzo[b]fluoranthene	267	236		ug/Kg		88	66 - 141
Benzo[k]fluoranthene	267	245		ug/Kg		92	63 - 150
Benzo[a]pyrene	267	225		ug/Kg		84	60 - 133
Indeno[1,2,3-cd]pyrene	267	241		ug/Kg		90	55 - 142
Dibenz(a,h)anthracene	267	242		ug/Kg		91	60 - 150
Benzo[g,h,i]perylene	267	245		ug/Kg		92	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-16143/2-A
Matrix: Solid
Analysis Batch: 16142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	83		23 - 120
2-Fluorobiphenyl (Surr)	71		38 - 123
p-Terphenyl-d14	100		68 - 136

Lab Sample ID: 590-8243-1 MS
Matrix: Solid
Analysis Batch: 16142

Client Sample ID: HSP-SP1:032818
Prep Type: Total/NA
Prep Batch: 16143

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		274	171		ug/Kg	☼	62	41 - 121
2-Methylnaphthalene	ND		274	182		ug/Kg	☼	66	39 - 132
1-Methylnaphthalene	ND		274	198		ug/Kg	☼	72	46 - 131
Acenaphthylene	ND		274	230		ug/Kg	☼	84	56 - 123
Acenaphthene	ND		274	236		ug/Kg	☼	86	43 - 140
Fluorene	ND		274	240		ug/Kg	☼	88	54 - 131
Phenanthrene	ND		274	259		ug/Kg	☼	92	55 - 141
Anthracene	ND		274	266		ug/Kg	☼	96	60 - 129
Fluoranthene	10		274	248		ug/Kg	☼	87	63 - 141
Pyrene	11		274	253		ug/Kg	☼	88	62 - 139
Benzo[a]anthracene	ND		274	257		ug/Kg	☼	92	61 - 136
Chrysene	ND		274	260		ug/Kg	☼	93	57 - 144
Benzo[b]fluoranthene	ND		274	254		ug/Kg	☼	90	66 - 141
Benzo[k]fluoranthene	ND		274	249		ug/Kg	☼	90	63 - 150
Benzo[a]pyrene	ND		274	252		ug/Kg	☼	90	60 - 133
Indeno[1,2,3-cd]pyrene	ND		274	237		ug/Kg	☼	85	55 - 142
Dibenz(a,h)anthracene	ND		274	244		ug/Kg	☼	89	60 - 150
Benzo[g,h,i]perylene	ND		274	233		ug/Kg	☼	83	58 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Nitrobenzene-d5	67		23 - 120
2-Fluorobiphenyl (Surr)	71		38 - 123
p-Terphenyl-d14	107		68 - 136

Lab Sample ID: 590-8243-1 MSD
Matrix: Solid
Analysis Batch: 16142

Client Sample ID: HSP-SP1:032818
Prep Type: Total/NA
Prep Batch: 16143

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		278	171		ug/Kg	☼	62	41 - 121	0	35
2-Methylnaphthalene	ND		278	190		ug/Kg	☼	68	39 - 132	5	35
1-Methylnaphthalene	ND		278	201		ug/Kg	☼	72	46 - 131	2	35
Acenaphthylene	ND		278	236		ug/Kg	☼	85	56 - 123	3	35
Acenaphthene	ND		278	245		ug/Kg	☼	88	43 - 140	4	35
Fluorene	ND		278	234		ug/Kg	☼	84	54 - 131	3	35
Phenanthrene	ND		278	258		ug/Kg	☼	91	55 - 141	0	35
Anthracene	ND		278	269		ug/Kg	☼	96	60 - 129	1	35
Fluoranthene	10		278	258		ug/Kg	☼	89	63 - 141	4	35
Pyrene	11		278	265		ug/Kg	☼	91	62 - 139	5	35

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 590-8243-1 MSD
Matrix: Solid
Analysis Batch: 16142

Client Sample ID: HSP-SP1:032818
Prep Type: Total/NA
Prep Batch: 16143

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	ND		278	251		ug/Kg	☼	88	61 - 136	3	35
Chrysene	ND		278	267		ug/Kg	☼	94	57 - 144	3	35
Benzo[b]fluoranthene	ND		278	251		ug/Kg	☼	87	66 - 141	1	35
Benzo[k]fluoranthene	ND		278	243		ug/Kg	☼	86	63 - 150	2	35
Benzo[a]pyrene	ND		278	252		ug/Kg	☼	88	60 - 133	0	35
Indeno[1,2,3-cd]pyrene	ND		278	224		ug/Kg	☼	79	55 - 142	6	35
Dibenz(a,h)anthracene	ND		278	229		ug/Kg	☼	82	60 - 150	6	35
Benzo[g,h,i]perylene	ND		278	221		ug/Kg	☼	77	58 - 147	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Nitrobenzene-d5	*73*		*23 - 120*
2-Fluorobiphenyl (Surr)	*74*		*38 - 123*
p-Terphenyl-d14	*111*		*68 - 136*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 590-16124/1-A
Matrix: Solid
Analysis Batch: 16120

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16124

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg		03/29/18 11:05	03/29/18 11:23	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg		03/29/18 11:05	03/29/18 11:23	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg		03/29/18 11:05	03/29/18 11:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*03/29/18 11:05*	*03/29/18 11:23*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*03/29/18 11:05*	*03/29/18 11:23*	*1*

Lab Sample ID: 590-8243-1 DU
Matrix: Solid
Analysis Batch: 16120

Client Sample ID: HSP-SP1:032818
Prep Type: Total/NA
Prep Batch: 16124

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		ND		mg/Kg	☼	NC	25
Diesel Range Organics (DRO) (C10-C25)	ND		ND		mg/Kg	☼	NC	25
Residual Range Organics (RRO) (C25-C36)	ND		ND		mg/Kg	☼	NC	25

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*91*		*50 - 150*
n-Triacontane-d62	*86*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-16151/2-A
Matrix: Solid
Analysis Batch: 16169

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16151

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		04/02/18 09:07	04/03/18 10:31	1
Barium	ND		1.3		mg/Kg		04/02/18 09:07	04/03/18 10:31	1
Cadmium	ND		1.3		mg/Kg		04/02/18 09:07	04/03/18 10:31	1
Chromium	ND		1.3		mg/Kg		04/02/18 09:07	04/03/18 10:31	1
Lead	ND		3.0		mg/Kg		04/02/18 09:07	04/03/18 10:31	1
Selenium	ND	^	5.0		mg/Kg		04/02/18 09:07	04/03/18 10:31	1
Silver	ND		1.3		mg/Kg		04/02/18 09:07	04/03/18 10:31	1

Lab Sample ID: LCS 590-16151/1-A
Matrix: Solid
Analysis Batch: 16169

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	49.9		mg/Kg		100	80 - 120
Barium	50.0	53.0		mg/Kg		106	80 - 120
Cadmium	50.0	51.3		mg/Kg		103	80 - 120
Chromium	50.0	52.3		mg/Kg		105	80 - 120
Lead	50.0	51.7		mg/Kg		103	80 - 120
Selenium	50.0	49.9	^	mg/Kg		100	80 - 120
Silver	50.0	51.6		mg/Kg		103	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-16153/9-A
Matrix: Solid
Analysis Batch: 16165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		04/02/18 09:37	04/03/18 10:42	1

Lab Sample ID: LCS 590-16153/8-A
Matrix: Solid
Analysis Batch: 16165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	190		ug/Kg		95	80 - 120

Lab Sample ID: 590-8243-1 MS
Matrix: Solid
Analysis Batch: 16165

Client Sample ID: HSP-SP1:032818
Prep Type: Total/NA
Prep Batch: 16153

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND		96.3	102		ug/Kg	☼	100	80 - 120

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: 590-8243-1 MSD
Matrix: Solid
Analysis Batch: 16165

Client Sample ID: HSP-SP1:032818
Prep Type: Total/NA
Prep Batch: 16153

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND		93.0	97.6		ug/Kg	☼	99	80 - 120	4	20

Lab Sample ID: 590-8243-1 DU
Matrix: Solid
Analysis Batch: 16165

Client Sample ID: HSP-SP1:032818
Prep Type: Total/NA
Prep Batch: 16153

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Hg	ND			ND		ug/Kg	☼			NC	20

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8243-1

Client Sample ID: HSP-SP1:032818
Date Collected: 03/28/18 12:30
Date Received: 03/28/18 13:45

Lab Sample ID: 590-8243-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16125	03/29/18 11:52	NMI	TAL SPK

Client Sample ID: HSP-SP1:032818
Date Collected: 03/28/18 12:30
Date Received: 03/28/18 13:45

Lab Sample ID: 590-8243-1
Matrix: Solid
Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.35 g	2 mL	16143	03/30/18 11:49	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16142	03/30/18 15:46	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.03 g	20 mL	16124	03/29/18 11:05	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16120	03/29/18 12:02	NMI	TAL SPK
Total/NA	Prep	3050B			1.09 g	50 mL	16151	04/02/18 09:07	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16169	04/03/18 11:00	JSP	TAL SPK
Total/NA	Prep	7471B			1.26 g	50 mL	16153	04/02/18 09:37	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16165	04/03/18 10:44	JSP	TAL SPK

Client Sample ID: HSP-SP2:032818
Date Collected: 03/28/18 12:36
Date Received: 03/28/18 13:45

Lab Sample ID: 590-8243-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			16125	03/29/18 11:52	NMI	TAL SPK

Client Sample ID: HSP-SP2:032818
Date Collected: 03/28/18 12:36
Date Received: 03/28/18 13:45

Lab Sample ID: 590-8243-2
Matrix: Solid
Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.57 g	2 mL	16143	03/30/18 11:49	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			16142	03/30/18 16:12	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.14 g	20 mL	16124	03/29/18 11:05	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			16120	03/29/18 12:21	NMI	TAL SPK
Total/NA	Prep	3050B			1.24 g	50 mL	16151	04/02/18 09:07	JSP	TAL SPK
Total/NA	Analysis	6010C		2			16169	04/03/18 11:13	JSP	TAL SPK
Total/NA	Prep	7471B			1.41 g	50 mL	16153	04/02/18 09:37	JSP	TAL SPK
Total/NA	Analysis	7471B		1			16165	04/03/18 10:53	JSP	TAL SPK

Laboratory References:
TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8243-1

Laboratory: TestAmerica Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids
NWTPH-HCID	NWTPH-HCID	Solid	Diesel Range Organics (DRO) (C10-C25)
NWTPH-HCID	NWTPH-HCID	Solid	Gasoline Range Organics [C6 - C10]
NWTPH-HCID	NWTPH-HCID	Solid	Residual Range Organics (RRO) (C25-C36)

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8243-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-HCID	Northwest - Hydrocarbon Identification (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

CHAIN OF CUSTODY RECORD

GeoEngineers
523 EAST SECOND AVE.
SPOKANE, WASHINGTON 99202
(509) 363-3125

590-8243 Chain of Custody

DATE 3/28/18
PAGE OF
LAB
LAB NO.

PROJECT NAME/LOCATION Riverfront Park
PROJECT NUMBER 0110-148-06
PROJECT MANAGER J Sugalski
SAMPLED BY J Sugalski

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED											NOTES/COMMENTS (Preserved, filtered, etc.)
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	RCRA 8	HCID	PAHs									
	HSP-SP1'032818	3/28/18	1230	Soil	2	X	X	X									Composite both jars
	HSP-SP2'032818	3/28/18	1236	Soil	2	X	X	X									Composite both jars
																	4.7°C

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GEI	SIGNATURE		SIGNATURE	
PRINTED NAME	Jackson Sugalski	PRINTED NAME		PRINTED NAME	
DATE 3/28/18	TIME 1345	DATE	TIME	DATE	TIME
RECEIVED BY	**FIRM**	**RECEIVED BY**	**FIRM**	**RECEIVED BY**	**FIRM**
SIGNATURE	TA Spk	SIGNATURE		SIGNATURE	
PRINTED NAME	Chris Williams	PRINTED NAME		PRINTED NAME	
DATE 3/28/18	TIME 1345	DATE	TIME	DATE	TIME

ADDITIONAL COMMENTS:

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-8243-1

Login Number: 8243
List Number: 1
Creator: Suda, Matt R

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	composite samples (2 jars/sample)
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-8653-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski

Authorized for release by:
6/19/2018 10:31:36 AM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Job ID: 590-8653-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 6/5/2018 1:16 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method NWTPH-HCID: Surrogate recovery for the following sample was outside control limits: HSP-9C:060518 (590-8653-7). Evidence of matrix interference due to high target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-8653-1	HSP-3C:060518	Solid	06/05/18 10:45	06/05/18 13:16
590-8653-2	HSP-4C:060518	Solid	06/05/18 10:58	06/05/18 13:16
590-8653-3	HSP-5C:060518	Solid	06/05/18 11:10	06/05/18 13:16
590-8653-4	HSP-6C:060518	Solid	06/05/18 11:20	06/05/18 13:16
590-8653-5	HSP-7C:060518	Solid	06/05/18 11:25	06/05/18 13:16
590-8653-6	HSP-8C:060518	Solid	06/05/18 11:40	06/05/18 13:16
590-8653-7	HSP-9C:060518	Solid	06/05/18 11:55	06/05/18 13:16
590-8653-8	HSP-DUP:060518	Solid	06/05/18 12:00	06/05/18 13:16

Definitions/Glossary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: HSP-3C:060518
Date Collected: 06/05/18 10:45
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-1
Matrix: Solid
Percent Solids: 95.2

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
2-Methylnaphthalene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
1-Methylnaphthalene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Acenaphthylene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Acenaphthene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Fluorene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Phenanthrene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Anthracene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Fluoranthene	**70**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Pyrene	**62**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Benzo[a]anthracene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Chrysene	**58**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Benzo[b]fluoranthene	**58**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Benzo[k]fluoranthene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Benzo[a]pyrene	**61**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Indeno[1,2,3-cd]pyrene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Dibenz(a,h)anthracene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5
Benzo[g,h,i]perylene	**85**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 00:35	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*23 - 120*	*06/08/18 11:19*	*06/12/18 00:35*	*5*
2-Fluorobiphenyl (Surr)	*95*		*38 - 123*	*06/08/18 11:19*	*06/12/18 00:35*	*5*
p-Terphenyl-d14	*103*		*68 - 136*	*06/08/18 11:19*	*06/12/18 00:35*	*5*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg	☼	06/08/18 10:07	06/08/18 11:38	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg	☼	06/08/18 10:07	06/08/18 11:38	1
Residual Range Organics (RRO) (C25-C36)	**340**		99		mg/Kg	☼	06/08/18 10:07	06/08/18 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*95*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:38*	*1*
n-Triacontane-d62	*98*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:38*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.9**		1.2		mg/Kg	☼	06/07/18 07:51	06/08/18 13:36	1
Barium	**61**		1.2		mg/Kg	☼	06/07/18 07:51	06/08/18 13:36	1
Cadmium	ND		0.97		mg/Kg	☼	06/07/18 07:51	06/08/18 13:36	1
Chromium	**6.4**		1.2		mg/Kg	☼	06/07/18 07:51	06/08/18 13:36	1
Lead	**47**	**F1**	2.9		mg/Kg	☼	06/07/18 07:51	06/08/18 13:36	1
Selenium	ND		4.9		mg/Kg	☼	06/07/18 07:51	06/08/18 13:36	1
Silver	ND		1.2		mg/Kg	☼	06/07/18 07:51	06/08/18 13:36	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		46		ug/Kg	☼	06/18/18 09:25	06/18/18 14:16	1

Client Sample ID: HSP-4C:060518
Date Collected: 06/05/18 10:58
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-2
Matrix: Solid
Percent Solids: 93.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Acenaphthylene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Acenaphthene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Fluorene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Phenanthrene	**19**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Anthracene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Fluoranthene	**42**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Pyrene	**56**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Benzo[a]anthracene	**25**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Chrysene	**34**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Benzo[b]fluoranthene	**38**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Benzo[k]fluoranthene	**15**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Benzo[a]pyrene	**33**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Indeno[1,2,3-cd]pyrene	**19**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1
Benzo[g,h,i]perylene	**25**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 01:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*77*		*23 - 120*	*06/08/18 11:19*	*06/12/18 01:01*	*1*
2-Fluorobiphenyl (Surr)	*97*		*38 - 123*	*06/08/18 11:19*	*06/12/18 01:01*	*1*
p-Terphenyl-d14	*110*		*68 - 136*	*06/08/18 11:19*	*06/12/18 01:01*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	06/08/18 10:07	06/08/18 11:59	1
Diesel Range Organics (DRO) (C10-C25)	ND		53		mg/Kg	☼	06/08/18 10:07	06/08/18 11:59	1
Residual Range Organics (RRO) (C25-C36)	**190**		110		mg/Kg	☼	06/08/18 10:07	06/08/18 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*109*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:59*	*1*
n-Triacontane-d62	*111*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:59*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.8**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:04	1
Barium	**79**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:04	1
Cadmium	ND		0.87		mg/Kg	☼	06/07/18 07:51	06/11/18 12:04	1
Chromium	**11**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:04	1
Lead	**22**		2.6		mg/Kg	☼	06/07/18 07:51	06/11/18 12:04	1
Selenium	ND	^	4.3		mg/Kg	☼	06/07/18 07:51	06/15/18 12:13	1
Silver	ND		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:04	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		37		ug/Kg	☼	06/18/18 09:25	06/18/18 14:25	1

Client Sample ID: HSP-5C:060518
Date Collected: 06/05/18 11:10
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-3
Matrix: Solid
Percent Solids: 87.9

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
2-Methylnaphthalene	**19**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
1-Methylnaphthalene	**17**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Acenaphthylene	**35**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Acenaphthene	ND		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Fluorene	ND		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Phenanthrene	**120**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Anthracene	**44**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Fluoranthene	**370**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Pyrene	**590**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Benzo[a]anthracene	**290**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Chrysene	**330**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Benzo[b]fluoranthene	**340**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Benzo[k]fluoranthene	**130**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Benzo[a]pyrene	**280**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Indeno[1,2,3-cd]pyrene	**130**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Dibenz(a,h)anthracene	**51**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1
Benzo[g,h,i]perylene	**140**		11		ug/Kg	☼	06/08/18 11:19	06/12/18 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*88*		*23 - 120*	*06/08/18 11:19*	*06/12/18 01:27*	*1*
2-Fluorobiphenyl (Surr)	*100*		*38 - 123*	*06/08/18 11:19*	*06/12/18 01:27*	*1*
p-Terphenyl-d14	*104*		*68 - 136*	*06/08/18 11:19*	*06/12/18 01:27*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		28		mg/Kg	☼	06/08/18 10:07	06/08/18 12:19	1
Diesel Range Organics (DRO) (C10-C25)	ND		55		mg/Kg	☼	06/08/18 10:07	06/08/18 12:19	1
Residual Range Organics (RRO) (C25-C36)	**170**		110		mg/Kg	☼	06/08/18 10:07	06/08/18 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*102*		*50 - 150*	*06/08/18 10:07*	*06/08/18 12:19*	*1*
n-Triacontane-d62	*104*		*50 - 150*	*06/08/18 10:07*	*06/08/18 12:19*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.4**		5.6		mg/Kg	☼	06/07/18 07:51	06/11/18 13:11	5
Barium	**180**		5.6		mg/Kg	☼	06/07/18 07:51	06/11/18 13:11	5
Cadmium	ND		4.4		mg/Kg	☼	06/07/18 07:51	06/11/18 13:11	5
Chromium	**8.8**		5.6		mg/Kg	☼	06/07/18 07:51	06/11/18 13:11	5
Lead	**110**		13		mg/Kg	☼	06/07/18 07:51	06/11/18 13:11	5
Selenium	ND	^	22		mg/Kg	☼	06/07/18 07:51	06/15/18 12:17	5
Silver	ND		5.6		mg/Kg	☼	06/07/18 07:51	06/11/18 13:11	5

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**410**		42		ug/Kg	☼	06/18/18 09:25	06/18/18 14:27	1

Client Sample ID: HSP-6C:060518
Date Collected: 06/05/18 11:20
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-4
Matrix: Solid
Percent Solids: 93.9

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
2-Methylnaphthalene	ND		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
1-Methylnaphthalene	ND		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Acenaphthylene	**480**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Acenaphthene	ND		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Fluorene	ND		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Phenanthrene	**500**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Anthracene	**260**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Fluoranthene	**2200**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Pyrene	**2900**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Benzo[a]anthracene	**1700**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Chrysene	**1800**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Benzo[b]fluoranthene	**2200**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Benzo[k]fluoranthene	**880**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Benzo[a]pyrene	**1900**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Indeno[1,2,3-cd]pyrene	**750**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Dibenz(a,h)anthracene	**260**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5
Benzo[g,h,i]perylene	**760**		51		ug/Kg	☼	06/08/18 11:19	06/12/18 01:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*75*		*23 - 120*	*06/08/18 11:19*	*06/12/18 01:54*	*5*
2-Fluorobiphenyl (Surr)	*94*		*38 - 123*	*06/08/18 11:19*	*06/12/18 01:54*	*5*
p-Terphenyl-d14	*99*		*68 - 136*	*06/08/18 11:19*	*06/12/18 01:54*	*5*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg	☼	06/08/18 10:07	06/08/18 11:38	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg	☼	06/08/18 10:07	06/08/18 11:38	1
Residual Range Organics (RRO) (C25-C36)	**580**		100		mg/Kg	☼	06/08/18 10:07	06/08/18 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:38*	*1*
n-Triacontane-d62	*109*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:38*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.2**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:12	1
Barium	**80**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:12	1
Cadmium	ND		0.84		mg/Kg	☼	06/07/18 07:51	06/11/18 12:12	1
Chromium	**19**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:12	1
Lead	**160**		2.5		mg/Kg	☼	06/07/18 07:51	06/11/18 12:12	1
Selenium	ND	^	4.2		mg/Kg	☼	06/07/18 07:51	06/15/18 12:21	1
Silver	ND		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:12	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**200**		40		ug/Kg	☼	06/18/18 09:25	06/18/18 14:30	1

Client Sample ID: HSP-7C:060518
Date Collected: 06/05/18 11:25
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-5
Matrix: Solid
Percent Solids: 94.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Acenaphthylene	**23**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Acenaphthene	**22**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Fluorene	**19**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Phenanthrene	**430**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Anthracene	**91**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Fluoranthene	**970**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Pyrene	**2000**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Benzo[a]anthracene	**1100**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Chrysene	**1200**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Benzo[b]fluoranthene	**900**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Benzo[k]fluoranthene	**270**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Benzo[a]pyrene	**770**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Indeno[1,2,3-cd]pyrene	**270**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Dibenz(a,h)anthracene	**140**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1
Benzo[g,h,i]perylene	**300**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*85*		*23 - 120*	*06/08/18 11:19*	*06/12/18 02:20*	*1*
2-Fluorobiphenyl (Surr)	*98*		*38 - 123*	*06/08/18 11:19*	*06/12/18 02:20*	*1*
p-Terphenyl-d14	*102*		*68 - 136*	*06/08/18 11:19*	*06/12/18 02:20*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg	☼	06/08/18 10:07	06/08/18 11:59	1
Diesel Range Organics (DRO) (C10-C25)	**74**		49		mg/Kg	☼	06/08/18 10:07	06/08/18 11:59	1
Residual Range Organics (RRO) (C25-C36)	**410**		99		mg/Kg	☼	06/08/18 10:07	06/08/18 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*112*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:59*	*1*
n-Triacontane-d62	*108*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:59*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**8.7**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:15	1
Barium	**76**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:15	1
Cadmium	ND		0.92		mg/Kg	☼	06/07/18 07:51	06/11/18 12:15	1
Chromium	**10**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:15	1
Lead	**25**		2.8		mg/Kg	☼	06/07/18 07:51	06/11/18 12:15	1
Selenium	ND	^	4.6		mg/Kg	☼	06/07/18 07:51	06/15/18 12:24	1
Silver	ND		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:15	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**170**		43		ug/Kg	☼	06/18/18 09:25	06/18/18 14:32	1

Client Sample ID: HSP-8C:060518
Date Collected: 06/05/18 11:40
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-6
Matrix: Solid
Percent Solids: 94.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Acenaphthylene	**21**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Acenaphthene	**31**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Fluorene	**17**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Phenanthrene	**220**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Anthracene	**68**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Fluoranthene	**340**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Pyrene	**470**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Benzo[a]anthracene	**210**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Chrysene	**240**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Benzo[b]fluoranthene	**290**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Benzo[k]fluoranthene	**95**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Benzo[a]pyrene	**210**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Indeno[1,2,3-cd]pyrene	**94**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Dibenz(a,h)anthracene	**35**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1
Benzo[g,h,i]perylene	**90**		10		ug/Kg	☼	06/08/18 11:19	06/12/18 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*86*		*23 - 120*	*06/08/18 11:19*	*06/12/18 02:46*	*1*
2-Fluorobiphenyl (Surr)	*102*		*38 - 123*	*06/08/18 11:19*	*06/12/18 02:46*	*1*
p-Terphenyl-d14	*111*		*68 - 136*	*06/08/18 11:19*	*06/12/18 02:46*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	06/08/18 10:07	06/08/18 12:40	1
Diesel Range Organics (DRO) (C10-C25)	ND		52		mg/Kg	☼	06/08/18 10:07	06/08/18 12:40	1
Residual Range Organics (RRO) (C25-C36)	**110**		100		mg/Kg	☼	06/08/18 10:07	06/08/18 12:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*101*		*50 - 150*	*06/08/18 10:07*	*06/08/18 12:40*	*1*
n-Triacontane-d62	*100*		*50 - 150*	*06/08/18 10:07*	*06/08/18 12:40*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**7.9**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:19	1
Barium	**100**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:19	1
Cadmium	ND		0.90		mg/Kg	☼	06/07/18 07:51	06/11/18 12:19	1
Chromium	**11**		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:19	1
Lead	**68**		2.7		mg/Kg	☼	06/07/18 07:51	06/11/18 12:19	1
Selenium	ND	^	4.5		mg/Kg	☼	06/07/18 07:51	06/15/18 12:28	1
Silver	ND		1.1		mg/Kg	☼	06/07/18 07:51	06/11/18 12:19	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**130**		42		ug/Kg	☼	06/18/18 09:25	06/18/18 14:39	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Client Sample ID: HSP-9C:060518
Date Collected: 06/05/18 11:55
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-7
Matrix: Solid
Percent Solids: 90.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	19		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
2-Methylnaphthalene	21		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
1-Methylnaphthalene	74		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Acenaphthylene	280		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Acenaphthene	420		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Fluorene	470		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Phenanthrene	6700		110		ug/Kg	☼	06/08/18 11:19	06/12/18 12:55	10
Anthracene	2000		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Fluoranthene	8700		110		ug/Kg	☼	06/08/18 11:19	06/12/18 12:55	10
Pyrene	9000		110		ug/Kg	☼	06/08/18 11:19	06/12/18 12:55	10
Benzo[a]anthracene	4300		110		ug/Kg	☼	06/08/18 11:19	06/12/18 12:55	10
Chrysene	4200		110		ug/Kg	☼	06/08/18 11:19	06/12/18 12:55	10
Benzo[b]fluoranthene	3500		110		ug/Kg	☼	06/08/18 11:19	06/12/18 12:55	10
Benzo[k]fluoranthene	1600		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Benzo[a]pyrene	3200		110		ug/Kg	☼	06/08/18 11:19	06/12/18 12:55	10
Indeno[1,2,3-cd]pyrene	1100		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Dibenz(a,h)anthracene	390		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1
Benzo[g,h,i]perylene	940		11		ug/Kg	☼	06/08/18 11:19	06/12/18 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*83*		*23 - 120*	*06/08/18 11:19*	*06/12/18 03:12*	*1*
Nitrobenzene-d5	*96*		*23 - 120*	*06/08/18 11:19*	*06/12/18 12:55*	*10*
2-Fluorobiphenyl (Surr)	*98*		*38 - 123*	*06/08/18 11:19*	*06/12/18 03:12*	*1*
2-Fluorobiphenyl (Surr)	*99*		*38 - 123*	*06/08/18 11:19*	*06/12/18 12:55*	*10*
p-Terphenyl-d14	*110*		*68 - 136*	*06/08/18 11:19*	*06/12/18 03:12*	*1*
p-Terphenyl-d14	*107*		*68 - 136*	*06/08/18 11:19*	*06/12/18 12:55*	*10*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg	☼	06/08/18 10:07	06/08/18 12:19	1
Diesel Range Organics (DRO) (C10-C25)	330		51		mg/Kg	☼	06/08/18 10:07	06/08/18 12:19	1
Residual Range Organics (RRO) (C25-C36)	460		100		mg/Kg	☼	06/08/18 10:07	06/08/18 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*186*	*X*	*50 - 150*	*06/08/18 10:07*	*06/08/18 12:19*	*1*
n-Triacontane-d62	*119*		*50 - 150*	*06/08/18 10:07*	*06/08/18 12:19*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		2.1		mg/Kg	☼	06/07/18 07:51	06/11/18 13:15	2
Barium	270		2.1		mg/Kg	☼	06/07/18 07:51	06/11/18 13:15	2
Cadmium	2.3		1.7		mg/Kg	☼	06/07/18 07:51	06/11/18 13:15	2
Chromium	12		2.1		mg/Kg	☼	06/07/18 07:51	06/11/18 13:15	2
Lead	520		5.1		mg/Kg	☼	06/07/18 07:51	06/11/18 13:15	2
Selenium	ND		8.5		mg/Kg	☼	06/07/18 07:51	06/18/18 11:13	2
Silver	ND		2.1		mg/Kg	☼	06/07/18 07:51	06/11/18 13:15	2

Client Sample ID: HSP-9C:060518

Lab Sample ID: 590-8653-7
Date Collected: 06/05/18 11:55
Matrix: Solid
Date Received: 06/05/18 13:16
Percent Solids: 90.7

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**290**		32		ug/Kg	☼	06/18/18 09:25	06/18/18 14:41	1

Client Sample ID: HSP-DUP:060518

Lab Sample ID: 590-8653-8
Date Collected: 06/05/18 12:00
Matrix: Solid
Date Received: 06/05/18 13:16
Percent Solids: 93.3

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
2-Methylnaphthalene	**75**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
1-Methylnaphthalene	**140**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Acenaphthylene	**170**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Acenaphthene	**180**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Fluorene	**210**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Phenanthrene	**1400**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Anthracene	**320**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Fluoranthene	**1000**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Pyrene	**1600**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Benzo[a]anthracene	**630**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Chrysene	**650**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Benzo[b]fluoranthene	**510**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Benzo[k]fluoranthene	**230**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Benzo[a]pyrene	**500**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Indeno[1,2,3-cd]pyrene	**170**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Dibenz(a,h)anthracene	**81**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5
Benzo[g,h,i]perylene	**190**		52		ug/Kg	☼	06/08/18 11:19	06/12/18 03:39	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*82*		*23 - 120*	*06/08/18 11:19*	*06/12/18 03:39*	*5*
2-Fluorobiphenyl (Surr)	*97*		*38 - 123*	*06/08/18 11:19*	*06/12/18 03:39*	*5*
p-Terphenyl-d14	*102*		*68 - 136*	*06/08/18 11:19*	*06/12/18 03:39*	*5*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		24		mg/Kg	☼	06/08/18 10:07	06/08/18 12:40	1
Diesel Range Organics (DRO) (C10-C25)	ND		49		mg/Kg	☼	06/08/18 10:07	06/08/18 12:40	1
Residual Range Organics (RRO) (C25-C36)	**460**		97		mg/Kg	☼	06/08/18 10:07	06/08/18 12:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*105*		*50 - 150*	*06/08/18 10:07*	*06/08/18 12:40*	*1*
n-Triacontane-d62	*112*		*50 - 150*	*06/08/18 10:07*	*06/08/18 12:40*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**12**		5.0		mg/Kg	☼	06/07/18 07:51	06/11/18 13:19	5
Barium	**130**		5.0		mg/Kg	☼	06/07/18 07:51	06/11/18 13:19	5
Cadmium	ND		4.0		mg/Kg	☼	06/07/18 07:51	06/11/18 13:19	5
Chromium	**9.5**		5.0		mg/Kg	☼	06/07/18 07:51	06/11/18 13:19	5
Lead	**140**		12		mg/Kg	☼	06/07/18 07:51	06/11/18 13:19	5

Client Sample ID: HSP-DUP:060518
Date Collected: 06/05/18 12:00
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-8
Matrix: Solid
Percent Solids: 93.3

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	^	20		mg/Kg	☼	06/07/18 07:51	06/15/18 12:36	5
Silver	ND		5.0		mg/Kg	☼	06/07/18 07:51	06/11/18 13:19	5

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**60**		34		ug/Kg	☼	06/18/18 09:25	06/18/18 14:43	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-17143/1-A
Matrix: Solid
Analysis Batch: 17176

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17143

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
2-Methylnaphthalene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
1-Methylnaphthalene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Acenaphthylene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Acenaphthene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Fluorene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Phenanthrene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Anthracene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Fluoranthene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Pyrene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Benzo[a]anthracene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Chrysene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Benzo[b]fluoranthene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Benzo[k]fluoranthene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Benzo[a]pyrene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		06/08/18 11:17	06/11/18 19:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*102*		*23 - 120*	*06/08/18 11:17*	*06/11/18 19:19*	*1*
2-Fluorobiphenyl (Surr)	*107*		*38 - 123*	*06/08/18 11:17*	*06/11/18 19:19*	*1*
p-Terphenyl-d14	*119*		*68 - 136*	*06/08/18 11:17*	*06/11/18 19:19*	*1*

Lab Sample ID: LCS 590-17143/3-A
Matrix: Solid
Analysis Batch: 17176

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17143

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	210		ug/Kg		79	41 - 121
2-Methylnaphthalene	267	224		ug/Kg		84	39 - 132
1-Methylnaphthalene	267	246		ug/Kg		92	46 - 131
Acenaphthylene	267	206		ug/Kg		77	56 - 123
Acenaphthene	267	239		ug/Kg		89	43 - 140
Fluorene	267	216		ug/Kg		81	54 - 131
Phenanthrene	267	232		ug/Kg		87	55 - 141
Anthracene	267	223		ug/Kg		84	60 - 129
Fluoranthene	267	227		ug/Kg		85	63 - 141
Pyrene	267	229		ug/Kg		86	62 - 139
Benzo[a]anthracene	267	224		ug/Kg		84	61 - 136
Chrysene	267	231		ug/Kg		87	57 - 144
Benzo[b]fluoranthene	267	233		ug/Kg		87	66 - 141
Benzo[k]fluoranthene	267	228		ug/Kg		86	63 - 150
Benzo[a]pyrene	267	203		ug/Kg		76	60 - 133
Indeno[1,2,3-cd]pyrene	267	227		ug/Kg		85	55 - 142
Dibenz(a,h)anthracene	267	228		ug/Kg		86	60 - 150
Benzo[g,h,i]perylene	267	214		ug/Kg		80	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-17143/3-A
Matrix: Solid
Analysis Batch: 17176

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17143

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*81*		*23 - 120*
2-Fluorobiphenyl (Surr)	*94*		*38 - 123*
p-Terphenyl-d14	*98*		*68 - 136*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 590-17142/1-A
Matrix: Solid
Analysis Batch: 17141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17142

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg		06/08/18 10:07	06/08/18 11:17	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg		06/08/18 10:07	06/08/18 11:17	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg		06/08/18 10:07	06/08/18 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*95*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:17*	*1*
n-Triacontane-d62	*88*		*50 - 150*	*06/08/18 10:07*	*06/08/18 11:17*	*1*

Lab Sample ID: 590-8653-4 DU
Matrix: Solid
Analysis Batch: 17140

Client Sample ID: HSP-6C:060518
Prep Type: Total/NA
Prep Batch: 17142

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND			ND		mg/Kg	☼			NC	25
Diesel Range Organics (DRO) (C10-C25)	ND			ND		mg/Kg	☼			NC	25
Residual Range Organics (RRO) (C25-C36)	580			555		mg/Kg	☼			5	25

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*96*		*50 - 150*
n-Triacontane-d62	*107*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-17110/2-A
Matrix: Solid
Analysis Batch: 17151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		06/07/18 07:50	06/08/18 13:33	1
Barium	ND		1.3		mg/Kg		06/07/18 07:50	06/08/18 13:33	1
Cadmium	ND		1.0		mg/Kg		06/07/18 07:50	06/08/18 13:33	1
Chromium	ND		1.3		mg/Kg		06/07/18 07:50	06/08/18 13:33	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 590-17110/2-A
Matrix: Solid
Analysis Batch: 17151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		3.0		mg/Kg		06/07/18 07:50	06/08/18 13:33	1
Selenium	ND		5.0		mg/Kg		06/07/18 07:50	06/08/18 13:33	1
Silver	ND		1.3		mg/Kg		06/07/18 07:50	06/08/18 13:33	1

Lab Sample ID: LCS 590-17110/1-A
Matrix: Solid
Analysis Batch: 17151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17110

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	49.6		mg/Kg		99	80 - 120
Barium	50.0	51.8		mg/Kg		104	80 - 120
Cadmium	50.0	49.2		mg/Kg		98	80 - 120
Chromium	50.0	51.7		mg/Kg		103	80 - 120
Lead	50.0	51.6		mg/Kg		103	80 - 120
Selenium	50.0	49.0		mg/Kg		98	80 - 120
Silver	50.0	50.3		mg/Kg		101	80 - 120

Lab Sample ID: 590-8653-1 MS
Matrix: Solid
Analysis Batch: 17151

Client Sample ID: HSP-3C:060518
Prep Type: Total/NA
Prep Batch: 17110

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.9		47.7	48.5		mg/Kg	☼	89	75 - 125
Barium	61		47.7	112		mg/Kg	☼	108	75 - 125
Cadmium	ND		47.7	44.3		mg/Kg	☼	93	75 - 125
Chromium	6.4		47.7	52.8		mg/Kg	☼	97	75 - 125
Lead	47	F1	47.7	94.0		mg/Kg	☼	98	75 - 125
Selenium	ND		47.7	41.4		mg/Kg	☼	87	75 - 125
Silver	ND		47.7	45.4		mg/Kg	☼	95	75 - 125

Lab Sample ID: 590-8653-1 MSD
Matrix: Solid
Analysis Batch: 17151

Client Sample ID: HSP-3C:060518
Prep Type: Total/NA
Prep Batch: 17110

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	5.9		49.1	49.7		mg/Kg	☼	89	75 - 125	3	20
Barium	61		49.1	118		mg/Kg	☼	116	75 - 125	5	20
Cadmium	ND		49.1	44.6		mg/Kg	☼	91	75 - 125	1	20
Chromium	6.4		49.1	52.8		mg/Kg	☼	95	75 - 125	0	20
Lead	47	F1	49.1	112	F1	mg/Kg	☼	133	75 - 125	18	20
Selenium	ND		49.1	41.8		mg/Kg	☼	85	75 - 125	1	20
Silver	ND		49.1	45.7		mg/Kg	☼	93	75 - 125	1	20

Lab Sample ID: 590-8653-1 DU
Matrix: Solid
Analysis Batch: 17151

Client Sample ID: HSP-3C:060518
Prep Type: Total/NA
Prep Batch: 17110

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	5.9		5.10		mg/Kg	☼	15	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 590-8653-1 DU
Matrix: Solid
Analysis Batch: 17151

Client Sample ID: HSP-3C:060518
Prep Type: Total/NA
Prep Batch: 17110

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Barium	61		72.7		mg/Kg	☼	18	20
Cadmium	ND		ND		mg/Kg	☼	NC	20
Chromium	6.4		6.53		mg/Kg	☼	2	20
Lead	47	F1	58.6	F3	mg/Kg	☼	21	20
Selenium	ND		ND		mg/Kg	☼	NC	20
Silver	ND		ND		mg/Kg	☼	NC	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-17286/9-A
Matrix: Solid
Analysis Batch: 17297

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17286

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		06/18/18 09:25	06/18/18 14:14	1

Lab Sample ID: LCS 590-17286/8-A
Matrix: Solid
Analysis Batch: 17297

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17286

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	199		ug/Kg		100	80 - 120

Lab Sample ID: 590-8653-1 MS
Matrix: Solid
Analysis Batch: 17297

Client Sample ID: HSP-3C:060518
Prep Type: Total/NA
Prep Batch: 17286

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND		202	232		ug/Kg	☼	102	80 - 120

Lab Sample ID: 590-8653-1 MSD
Matrix: Solid
Analysis Batch: 17297

Client Sample ID: HSP-3C:060518
Prep Type: Total/NA
Prep Batch: 17286

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND		210	232		ug/Kg	☼	98	80 - 120	0	20

Lab Sample ID: 590-8653-1 DU
Matrix: Solid
Analysis Batch: 17297

Client Sample ID: HSP-3C:060518
Prep Type: Total/NA
Prep Batch: 17286

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Hg	ND		ND		ug/Kg	☼	NC	20

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Client Sample ID: HSP-3C:060518
Date Collected: 06/05/18 10:45
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-3C:060518
Date Collected: 06/05/18 10:45
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-1
Matrix: Solid
Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.01 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		5			17176	06/12/18 00:35	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.58 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17141	06/08/18 11:38	NMI	TAL SPK
Total/NA	Prep	3050B			1.08 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17151	06/08/18 13:36	JSP	TAL SPK
Total/NA	Prep	7471B			0.57 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:16	JSP	TAL SPK

Client Sample ID: HSP-4C:060518
Date Collected: 06/05/18 10:58
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-4C:060518
Date Collected: 06/05/18 10:58
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-2
Matrix: Solid
Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.71 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			17176	06/12/18 01:01	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.09 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17141	06/08/18 11:59	NMI	TAL SPK
Total/NA	Prep	3050B			1.23 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17168	06/11/18 12:04	JSP	TAL SPK
Total/NA	Prep	3050B			1.23 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17264	06/15/18 12:13	JSP	TAL SPK
Total/NA	Prep	7471B			0.72 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:25	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Client Sample ID: HSP-5C:060518
Date Collected: 06/05/18 11:10
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-5C:060518
Date Collected: 06/05/18 11:10
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-3
Matrix: Solid
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.64 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			17176	06/12/18 01:27	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.27 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17141	06/08/18 12:19	NMI	TAL SPK
Total/NA	Prep	3050B			1.28 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		5			17168	06/11/18 13:11	JSP	TAL SPK
Total/NA	Prep	3050B			1.28 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		5			17264	06/15/18 12:17	JSP	TAL SPK
Total/NA	Prep	7471B			0.68 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:27	JSP	TAL SPK

Client Sample ID: HSP-6C:060518
Date Collected: 06/05/18 11:20
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-6C:060518
Date Collected: 06/05/18 11:20
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-4
Matrix: Solid
Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.79 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		5			17176	06/12/18 01:54	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.55 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17140	06/08/18 11:38	NMI	TAL SPK
Total/NA	Prep	3050B			1.26 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17168	06/11/18 12:12	JSP	TAL SPK
Total/NA	Prep	3050B			1.26 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17264	06/15/18 12:21	JSP	TAL SPK
Total/NA	Prep	7471B			0.66 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:30	JSP	TAL SPK

Client Sample ID: HSP-7C:060518
Date Collected: 06/05/18 11:25
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-7C:060518
Date Collected: 06/05/18 11:25
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-5
Matrix: Solid
Percent Solids: 94.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.30 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			17176	06/12/18 02:20	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.73 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17140	06/08/18 11:59	NMI	TAL SPK
Total/NA	Prep	3050B			1.15 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17168	06/11/18 12:15	JSP	TAL SPK
Total/NA	Prep	3050B			1.15 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17264	06/15/18 12:24	JSP	TAL SPK
Total/NA	Prep	7471B			0.61 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:32	JSP	TAL SPK

Client Sample ID: HSP-8C:060518
Date Collected: 06/05/18 11:40
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-8C:060518
Date Collected: 06/05/18 11:40
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-6
Matrix: Solid
Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.65 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			17176	06/12/18 02:46	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.29 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17141	06/08/18 12:40	NMI	TAL SPK
Total/NA	Prep	3050B			1.18 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17168	06/11/18 12:19	JSP	TAL SPK
Total/NA	Prep	3050B			1.18 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		1			17264	06/15/18 12:28	JSP	TAL SPK
Total/NA	Prep	7471B			0.64 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:39	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Client Sample ID: HSP-9C:060518
Date Collected: 06/05/18 11:55
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-9C:060518
Date Collected: 06/05/18 11:55
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-7
Matrix: Solid
Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.51 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			17176	06/12/18 03:12	NMI	TAL SPK
Total/NA	Prep	3550C			15.51 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		10			17182	06/12/18 12:55	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.86 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17140	06/08/18 12:19	NMI	TAL SPK
Total/NA	Prep	3050B			1.30 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		2			17168	06/11/18 13:15	JSP	TAL SPK
Total/NA	Prep	3050B			1.30 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		2			17291	06/18/18 11:13	JSP	TAL SPK
Total/NA	Prep	7471B			0.86 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:41	JSP	TAL SPK

Client Sample ID: HSP-DUP:060518
Date Collected: 06/05/18 12:00
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17114	06/07/18 08:14	CBW	TAL SPK

Client Sample ID: HSP-DUP:060518
Date Collected: 06/05/18 12:00
Date Received: 06/05/18 13:16

Lab Sample ID: 590-8653-8
Matrix: Solid
Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.47 g	2 mL	17143	06/08/18 11:19	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		5			17176	06/12/18 03:39	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			11.00 g	20 mL	17142	06/08/18 10:07	NMI	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17140	06/08/18 12:40	NMI	TAL SPK
Total/NA	Prep	3050B			1.35 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		5			17168	06/11/18 13:19	JSP	TAL SPK
Total/NA	Prep	3050B			1.35 g	50 mL	17110	06/07/18 07:51	CBW	TAL SPK
Total/NA	Analysis	6010C		5			17264	06/15/18 12:36	JSP	TAL SPK
Total/NA	Prep	7471B			0.78 g	50 mL	17286	06/18/18 09:25	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17297	06/18/18 14:43	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Laboratory: TestAmerica Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids
NWTPH-HCID	NWTPH-HCID	Solid	Diesel Range Organics (DRO) (C10-C25)
NWTPH-HCID	NWTPH-HCID	Solid	Gasoline Range Organics [C6 - C10]
NWTPH-HCID	NWTPH-HCID	Solid	Residual Range Organics (RRO) (C25-C36)

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8653-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-HCID	Northwest - Hydrocarbon Identification (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK
NWTPH-HCID	Solvent Extraction	NWTPH	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

CHAIN OF CUSTODY RECORD

GeoEngineers
523 EAST SECOND AVE.
SPOKANE, WASHINGTON 99202
(509) 363-3125

DATE 6/5/18
PAGE OF
LAB
LAB NO.

PROJECT NAME/LOCATION Riverfront Park/Spokane
PROJECT NUMBER 0110-148-06
PROJECT MANAGER JR Sugalski
SAMPLED BY JR Sugalski

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED			NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	8041	HCID	RCRA 8	(Preserved, filtered, etc.)
	HSP-3C:060518	6/5/18	1045	Soil	2	X	X	X	Standard TAT
	HSP-4C:060518		1058		2	X	X	X	
	HSP-5C:060518		1110		2	X	X	X	
	HSP-6C:060518		1120		2	X	X	X	
	HSP-7C:060518		1125		2	X	X	X	
	HSP-8C:060518		1140		2	X	X	X	
	HSP-9C:060518		1155		2	X	X	X	
	HSP-10R:060518		1200		2	X	X	X	

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GEI	SIGNATURE		SIGNATURE	
PRINTED NAME	Jeralich Sugalski	PRINTED NAME		PRINTED NAME	
DATE 6/5/18	TIME 1316	DATE	TIME	DATE	TIME
RECEIVED BY	FIRM TMDC	RECEIVED BY	FIRM	RECEIVED BY	FIRM
SIGNATURE		SIGNATURE		SIGNATURE	
PRINTED NAME	Sheila Kittz	PRINTED NAME		PRINTED NAME	
DATE 6/5/18	TIME 1316	DATE	TIME	DAT	TIME

ADDITIONAL COMMENTS: 1.L.C IROCK

590-8653 Chain of Custody

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-8653-1

Login Number: 8653
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-8935-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski

Authorized for release by:
7/27/2018 4:07:45 PM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8935-1

Job ID: 590-8935-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The sample was received on 7/18/2018 10:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.1º C.

Receipt Exceptions
The following sample was received at the laboratory outside the required temperature criteria: USPTP-1 (2-2.5) (590-8935-1). The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 6010C: The low level continuing calibration verification (CCVL) associated with batch 590-17960 recovered above the upper control limit for Selenium. The samples associated with this CCV were either non-detects or >10x for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8935-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-8935-1	USPTP-1 (2-2.5)	Solid	07/18/18 08:40	07/18/18 10:40

Definitions/Glossary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8935-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: USPTP-1 (2-2.5)

Date Collected: 07/18/18 08:40
Date Received: 07/18/18 10:40

Lab Sample ID: 590-8935-1

Matrix: Solid
Percent Solids: 98.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
2-Methylnaphthalene	ND		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
1-Methylnaphthalene	ND		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Acenaphthylene	ND		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Acenaphthene	**73**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Fluorene	**49**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Phenanthrene	**390**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Anthracene	**130**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Fluoranthene	**650**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Pyrene	**580**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Benzo[a]anthracene	**280**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Chrysene	**300**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Benzo[b]fluoranthene	**340**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Benzo[k]fluoranthene	**140**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Benzo[a]pyrene	**290**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Indeno[1,2,3-cd]pyrene	**150**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Dibenz(a,h)anthracene	**46**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1
Benzo[g,h,i]perylene	**180**		9.9		ug/Kg	☼	07/25/18 08:43	07/25/18 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*82*		*23 - 120*	*07/25/18 08:43*	*07/25/18 18:34*	*1*
2-Fluorobiphenyl (Surr)	*89*		*38 - 123*	*07/25/18 08:43*	*07/25/18 18:34*	*1*
p-Terphenyl-d14	*99*		*68 - 136*	*07/25/18 08:43*	*07/25/18 18:34*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg	☼	07/23/18 15:58	07/23/18 20:57	1
Diesel Range Organics (DRO) (C10-C25)	ND		51		mg/Kg	☼	07/23/18 15:58	07/23/18 20:57	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg	☼	07/23/18 15:58	07/23/18 20:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*07/23/18 15:58*	*07/23/18 20:57*	*1*
n-Triacontane-d62	*101*		*50 - 150*	*07/23/18 15:58*	*07/23/18 20:57*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**11**		2.5		mg/Kg	☼	07/24/18 10:55	07/25/18 15:27	2
Barium	**53**		2.5		mg/Kg	☼	07/24/18 10:55	07/25/18 15:27	2
Cadmium	ND		2.0		mg/Kg	☼	07/24/18 10:55	07/25/18 15:27	2
Chromium	**15**		2.5		mg/Kg	☼	07/24/18 10:55	07/25/18 15:27	2
Lead	**12**		5.9		mg/Kg	☼	07/24/18 10:55	07/25/18 15:27	2
Selenium	ND	^	9.9		mg/Kg	☼	07/24/18 10:55	07/26/18 16:26	2
Silver	ND		2.5		mg/Kg	☼	07/24/18 10:55	07/25/18 15:27	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		32		ug/Kg	☼	07/19/18 08:43	07/19/18 14:53	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-17891/1-A
Matrix: Solid
Analysis Batch: 17895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
2-Methylnaphthalene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
1-Methylnaphthalene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Acenaphthylene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Acenaphthene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Fluorene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Phenanthrene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Anthracene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Fluoranthene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Pyrene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Benzo[a]anthracene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Chrysene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Benzo[b]fluoranthene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Benzo[k]fluoranthene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Benzo[a]pyrene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		07/25/18 08:43	07/25/18 10:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*87*		*23 - 120*	*07/25/18 08:43*	*07/25/18 10:41*	*1*
2-Fluorobiphenyl (Surr)	*86*		*38 - 123*	*07/25/18 08:43*	*07/25/18 10:41*	*1*
p-Terphenyl-d14	*111*		*68 - 136*	*07/25/18 08:43*	*07/25/18 10:41*	*1*

Lab Sample ID: LCS 590-17891/2-A
Matrix: Solid
Analysis Batch: 17895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17891

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	158		ug/Kg		59	41 - 121
2-Methylnaphthalene	267	193		ug/Kg		72	39 - 132
1-Methylnaphthalene	267	213		ug/Kg		80	46 - 131
Acenaphthylene	267	176		ug/Kg		66	56 - 123
Acenaphthene	267	195		ug/Kg		73	43 - 140
Fluorene	267	218		ug/Kg		82	54 - 131
Phenanthrene	267	203		ug/Kg		76	55 - 141
Anthracene	267	229		ug/Kg		86	60 - 129
Fluoranthene	267	216		ug/Kg		81	63 - 141
Pyrene	267	230		ug/Kg		86	62 - 139
Benzo[a]anthracene	267	219		ug/Kg		82	61 - 136
Chrysene	267	230		ug/Kg		86	57 - 144
Benzo[b]fluoranthene	267	222		ug/Kg		83	66 - 141
Benzo[k]fluoranthene	267	227		ug/Kg		85	63 - 150
Benzo[a]pyrene	267	214		ug/Kg		80	60 - 133
Indeno[1,2,3-cd]pyrene	267	214		ug/Kg		80	55 - 142
Dibenz(a,h)anthracene	267	210		ug/Kg		79	60 - 150
Benzo[g,h,i]perylene	267	228		ug/Kg		86	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-17891/2-A
Matrix: Solid
Analysis Batch: 17895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17891

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	*81*		*23 - 120*
2-Fluorobiphenyl (Surr)	*80*		*38 - 123*
p-Terphenyl-d14	*90*		*68 - 136*

Lab Sample ID: LCSD 590-17891/3-A
Matrix: Solid
Analysis Batch: 17895

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 17891

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			267	200		ug/Kg		75	41 - 121	24	35
2-Methylnaphthalene			267	223		ug/Kg		84	39 - 132	15	35
1-Methylnaphthalene			267	250		ug/Kg		94	46 - 131	16	35
Acenaphthylene			267	187		ug/Kg		70	56 - 123	6	35
Acenaphthene			267	213		ug/Kg		80	43 - 140	9	35
Fluorene			267	247		ug/Kg		92	54 - 131	12	35
Phenanthrene			267	247		ug/Kg		92	55 - 141	20	35
Anthracene			267	264		ug/Kg		99	60 - 129	14	35
Fluoranthene			267	255		ug/Kg		96	63 - 141	16	35
Pyrene			267	258		ug/Kg		97	62 - 139	12	35
Benzo[a]anthracene			267	240		ug/Kg		90	61 - 136	9	35
Chrysene			267	252		ug/Kg		94	57 - 144	9	35
Benzo[b]fluoranthene			267	244		ug/Kg		91	66 - 141	9	35
Benzo[k]fluoranthene			267	260		ug/Kg		98	63 - 150	14	35
Benzo[a]pyrene			267	245		ug/Kg		92	60 - 133	14	35
Indeno[1,2,3-cd]pyrene			267	249		ug/Kg		93	55 - 142	15	35
Dibenz(a,h)anthracene			267	249		ug/Kg		93	60 - 150	17	35
Benzo[g,h,i]perylene			267	254		ug/Kg		95	58 - 147	11	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	*94*		*23 - 120*
2-Fluorobiphenyl (Surr)	*93*		*38 - 123*
p-Terphenyl-d14	*106*		*68 - 136*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 590-17861/1-A
Matrix: Solid
Analysis Batch: 17862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17861

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg		07/23/18 15:58	07/23/18 20:20	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg		07/23/18 15:58	07/23/18 20:20	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg		07/23/18 15:58	07/23/18 20:20	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC) (Continued)

Lab Sample ID: MB 590-17861/1-A
Matrix: Solid
Analysis Batch: 17862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17861

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150	07/23/18 15:58	07/23/18 20:20	1
n-Triacontane-d62	96		50 - 150	07/23/18 15:58	07/23/18 20:20	1

Lab Sample ID: 590-8935-1 DU
Matrix: Solid
Analysis Batch: 17862

Client Sample ID: USPTP-1 (2-2.5)
Prep Type: Total/NA
Prep Batch: 17861

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND			ND		mg/Kg	☼			NC	25
Diesel Range Organics (DRO) (C10-C25)	ND			ND		mg/Kg	☼			NC	25
Residual Range Organics (RRO) (C25-C36)	ND			ND		mg/Kg	☼			NC	25

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	99		50 - 150
n-Triacontane-d62	100		50 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-17873/1-A
Matrix: Solid
Analysis Batch: 17932

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		07/24/18 10:55	07/25/18 15:10	1
Barium	ND		1.3		mg/Kg		07/24/18 10:55	07/25/18 15:10	1
Cadmium	ND		1.0		mg/Kg		07/24/18 10:55	07/25/18 15:10	1
Chromium	ND		1.3		mg/Kg		07/24/18 10:55	07/25/18 15:10	1
Lead	ND		3.0		mg/Kg		07/24/18 10:55	07/25/18 15:10	1
Silver	ND		1.3		mg/Kg		07/24/18 10:55	07/25/18 15:10	1

Lab Sample ID: MB 590-17873/1-A
Matrix: Solid
Analysis Batch: 17960

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	^	5.0		mg/Kg		07/24/18 10:55	07/26/18 16:19	1

Lab Sample ID: LCS 590-17873/2-A
Matrix: Solid
Analysis Batch: 17932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17873

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			50.0	51.3		mg/Kg		103	80 - 120		
Barium			50.0	51.9		mg/Kg		104	80 - 120		
Cadmium			50.0	52.9		mg/Kg		106	80 - 120		
Chromium			50.0	54.2		mg/Kg		108	80 - 120		

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 590-17873/2-A
Matrix: Solid
Analysis Batch: 17932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	53.7		mg/Kg		107	80 - 120
Silver	50.0	50.5		mg/Kg		101	80 - 120

Lab Sample ID: LCS 590-17873/2-A
Matrix: Solid
Analysis Batch: 17960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	50.0	49.6	^	mg/Kg		99	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-17811/9-A
Matrix: Solid
Analysis Batch: 17823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17811

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		07/19/18 08:43	07/19/18 14:25	1

Lab Sample ID: LCS 590-17811/8-A
Matrix: Solid
Analysis Batch: 17823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17811

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	195		ug/Kg		98	80 - 120

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8935-1

Client Sample ID: USPTP-1 (2-2.5)

Lab Sample ID: 590-8935-1

Date Collected: 07/18/18 08:40

Matrix: Solid

Date Received: 07/18/18 10:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			17813	07/19/18 09:13	JSP	TAL SPK

Client Sample ID: USPTP-1 (2-2.5)

Lab Sample ID: 590-8935-1

Date Collected: 07/18/18 08:40

Matrix: Solid

Date Received: 07/18/18 10:40

Percent Solids: 98.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.44 g	2 mL	17891	07/25/18 08:43	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			17895	07/25/18 18:34	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.00 g	20 mL	17861	07/23/18 15:58	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			17862	07/23/18 20:57	NMI	TAL SPK
Total/NA	Prep	3050B			1.03 g	50 mL	17873	07/24/18 10:55	CWD	TAL SPK
Total/NA	Analysis	6010C		2			17932	07/25/18 15:27	JSP	TAL SPK
Total/NA	Prep	3050B			1.03 g	50 mL	17873	07/24/18 10:55	CWD	TAL SPK
Total/NA	Analysis	6010C		2			17960	07/26/18 16:26	JSP	TAL SPK
Total/NA	Prep	7471B			0.80 g	50 mL	17811	07/19/18 08:43	JSP	TAL SPK
Total/NA	Analysis	7471B		1			17823	07/19/18 14:53	JSP	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8935-1

Laboratory: TestAmerica Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids
NWTPH-HCID	NWTPH-HCID	Solid	Diesel Range Organics (DRO) (C10-C25)
NWTPH-HCID	NWTPH-HCID	Solid	Gasoline Range Organics [C6 - C10]
NWTPH-HCID	NWTPH-HCID	Solid	Residual Range Organics (RRO) (C25-C36)

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-8935-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-HCID	Northwest - Hydrocarbon Identification (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK
NWTPH-HCID	Solvent Extraction	NWTPH	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

CHAIN OF CUSTODY RECORD

GeoEngineers
523 EAST SECOND AVE.
SPOKANE, WASHINGTON 99202
(509) 363-3125

DATE 7/18/18
PAGE 1 OF 1
LAB TestAmerica
LAB NO. Spokane Valley, WA

PROJECT NAME/LOCATION Riverfront Park-Washington St. Bridge
PROJECT NUMBER 0110-148-06
PROJECT MANAGER JR Sugalski jrsugalski@geoengineers.com
SAMPLED BY J Lee

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED												NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	RCRA8 (ERA-6000/8000)	NWTPH-HCID	PAHs (8270 SIM)										(Preserved, filtered, etc.)
	1SPTP-1(2-2.5)	7/18/18	0840	SOIL	2	X	X	X										

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GeoEngineers	SIGNATURE		SIGNATURE	
PRINTED NAME Justin Orr		PRINTED NAME		PRINTED NAME	
DATE 7/18/18 TIME 1037		DATE TIME		DATE TIME	
RECEIVED BY	**FIRM**	**RECEIVED BY**	**FIRM**	**RECEIVED BY**	**FIRM**
SIGNATURE Sheila Kratz	TA-SPO	SIGNATURE		SIGNATURE	
PRINTED NAME Sheila Kratz		PRINTED NAME		PRINTED NAME	
DATE 7/18/18 TIME 1040		DATE TIME		DATE TIME	

ADDITIONAL COMMENTS: 7.1°C IR0024 Std TAT

590-8935 Chain of Custody

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-8935-1

Login Number: 8935
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-9012-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski

Authorized for release by:
8/6/2018 4:41:22 PM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Job ID: 590-9012-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 7/30/2018 4:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7º C.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 590-18083 recovered above the upper control limit for Bromochloromethane and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260C: The laboratory control sample (LCS) for preparation batch 590-18057 and analytical batch 590-18083 recovered outside control limits for the following analyte: 2,2-Dichloropropane. This analyte was biased high in the LCS and not detected in the associated sample; therefore, the data have been reported.

Method 8260C: The continuing calibration verification (CCV) associated with batch 590-18107 recovered outside acceptance criteria, low biased, for Bromomethane and Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method NWTPH-Dx: Surrogate recovery for the following sample was outside control limits: HSP-TP1:073018 (590-9012-1). Evidence of matrix interference due to high target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-9012-1	HSP-TP1:073018	Solid	07/30/18 13:00	07/30/18 16:40
590-9012-2	Trip Blank	Water	07/30/18 00:00	07/30/18 16:40

Definitions/Glossary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Client Sample ID: HSP-TP1:073018
Date Collected: 07/30/18 13:00
Date Received: 07/30/18 16:40

Lab Sample ID: 590-9012-1
Matrix: Solid
Percent Solids: 87.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,1,1-Trichloroethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,1,2,2-Tetrachloroethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,1,2-Trichloroethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,1,2-Trichlorotrifluoroethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,1-Dichloroethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,1-Dichloroethene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,1-Dichloropropene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2,3-Trichlorobenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2,3-Trichloropropane	ND		0.17		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2,4-Trichlorobenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2,4-Trimethylbenzene	**0.49**		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2-Dibromo-3-Chloropropane	ND		0.42		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2-Dibromoethane (EDB)	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2-Dichlorobenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2-Dichloroethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,2-Dichloropropane	ND		0.10		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,3,5-Trimethylbenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,3-Dichlorobenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,3-Dichloropropane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
1,4-Dichlorobenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
2,2-Dichloropropane	ND	*	0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
2-Butanone (MEK)	ND		0.85		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
2-Chlorotoluene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
2-Hexanone	ND		0.85		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
4-Chlorotoluene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
4-Methyl-2-pentanone (MIBK)	ND		0.85		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Acetone	ND		2.5		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Benzene	**0.024**		0.017		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Bromobenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Bromochloromethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Bromodichloromethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Bromoform	ND		0.17		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Bromomethane	ND		0.42		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Carbon disulfide	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Carbon tetrachloride	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Chlorobenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Chloroethane	ND		0.17		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Chloroform	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Chloromethane	ND		0.42		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
cis-1,2-Dichloroethene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
cis-1,3-Dichloropropene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Dibromochloromethane	ND		0.17		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Dibromomethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Dichlorodifluoromethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Dichlorofluoromethane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Ethylbenzene	**0.23**		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Hexachlorobutadiene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Hexane	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1

Client Sample ID: HSP-TP1:073018
Date Collected: 07/30/18 13:00
Date Received: 07/30/18 16:40

Lab Sample ID: 590-9012-1
Matrix: Solid
Percent Solids: 87.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
m,p-Xylene	**0.64**		0.34		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Methyl tert-butyl ether	ND		0.042		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Methylene Chloride	ND		0.30		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Naphthalene	**0.70**		0.17		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
n-Butylbenzene	**0.12**		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
N-Propylbenzene	**0.17**		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
o-Xylene	ND		0.17		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
p-Isopropyltoluene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
sec-Butylbenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Styrene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
tert-Butylbenzene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Tetrachloroethene	ND		0.034		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Toluene	**0.095**		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
trans-1,2-Dichloroethene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
trans-1,3-Dichloropropene	ND		0.085		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Trichloroethene	ND		0.021		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Trichlorofluoromethane	ND		0.17		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Vinyl chloride	ND		0.051		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1
Xylenes, Total	**0.77**		0.51		mg/Kg	☼	08/01/18 17:44	08/02/18 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 120*	*08/01/18 17:44*	*08/02/18 18:35*	*1*
4-Bromofluorobenzene (Surr)	*86*		*76 - 122*	*08/01/18 17:44*	*08/02/18 18:35*	*1*
Dibromofluoromethane (Surr)	*113*		*80 - 120*	*08/01/18 17:44*	*08/02/18 18:35*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*	*08/01/18 17:44*	*08/02/18 18:35*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**19**		4.2		mg/Kg	☼	08/01/18 17:44	08/02/18 09:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41.5 - 162*	*08/01/18 17:44*	*08/02/18 09:02*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**5200**		110		ug/Kg	☼	07/31/18 10:15	08/01/18 12:02	10
1-Methylnaphthalene	**1800**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Acenaphthylene	**76**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Acenaphthene	ND		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Fluorene	**530**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Phenanthrene	**1100**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Anthracene	**400**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Fluoranthene	**340**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Pyrene	**470**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Benzo[a]anthracene	**100**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Chrysene	**150**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Benzo[b]fluoranthene	**180**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Benzo[k]fluoranthene	**42**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Benzo[a]pyrene	**85**		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1

Client Sample ID: HSP-TP1:073018

Lab Sample ID: 590-9012-1
Date Collected: 07/30/18 13:00
Matrix: Solid
Date Received: 07/30/18 16:40
Percent Solids: 87.1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	77		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Dibenz(a,h)anthracene	20		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1
Benzo[g,h,i]perylene	100		11		ug/Kg	☼	07/31/18 10:15	07/31/18 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*23 - 120*	*07/31/18 10:15*	*07/31/18 20:16*	*1*
Nitrobenzene-d5	*79*		*23 - 120*	*07/31/18 10:15*	*08/01/18 12:02*	*10*
2-Fluorobiphenyl (Surr)	*90*		*38 - 123*	*07/31/18 10:15*	*07/31/18 20:16*	*1*
2-Fluorobiphenyl (Surr)	*103*		*38 - 123*	*07/31/18 10:15*	*08/01/18 12:02*	*10*
p-Terphenyl-d14	*104*		*68 - 136*	*07/31/18 10:15*	*07/31/18 20:16*	*1*
p-Terphenyl-d14	*112*		*68 - 136*	*07/31/18 10:15*	*08/01/18 12:02*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	480		11		mg/Kg	☼	07/31/18 14:11	07/31/18 21:51	1
Residual Range Organics (RRO) (C25-C36)	300		28		mg/Kg	☼	07/31/18 14:11	07/31/18 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*151*	*X*	*50 - 150*	*07/31/18 14:11*	*07/31/18 21:51*	*1*
n-Triacontane-d62	*118*		*50 - 150*	*07/31/18 14:11*	*07/31/18 21:51*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		2.4		mg/Kg	☼	07/31/18 09:11	07/31/18 14:54	2
Barium	70		2.4		mg/Kg	☼	07/31/18 09:11	07/31/18 14:54	2
Cadmium	ND		1.9		mg/Kg	☼	07/31/18 09:11	07/31/18 14:54	2
Chromium	21		2.4		mg/Kg	☼	07/31/18 09:11	07/31/18 14:54	2
Lead	87		5.7		mg/Kg	☼	07/31/18 09:11	07/31/18 14:54	2
Selenium	ND		9.5		mg/Kg	☼	07/31/18 09:11	07/31/18 14:54	2
Silver	ND		2.4		mg/Kg	☼	07/31/18 09:11	07/31/18 14:54	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	63		41		ug/Kg	☼	07/31/18 09:21	07/31/18 15:55	1

Client Sample ID: Trip Blank

Lab Sample ID: 590-9012-2
Date Collected: 07/30/18 00:00
Matrix: Water
Date Received: 07/30/18 16:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.0		ug/L			08/03/18 18:59	1
Chloromethane	ND		3.0		ug/L			08/03/18 18:59	1
Vinyl chloride	ND		0.40		ug/L			08/03/18 18:59	1
Bromomethane	ND		5.0		ug/L			08/03/18 18:59	1
Chloroethane	ND		2.0		ug/L			08/03/18 18:59	1
Trichlorofluoromethane	ND		1.0		ug/L			08/03/18 18:59	1
1,1-Dichloroethene	ND		1.0		ug/L			08/03/18 18:59	1
Methylene Chloride	ND		5.0		ug/L			08/03/18 18:59	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Client Sample ID: Trip Blank
Date Collected: 07/30/18 00:00
Date Received: 07/30/18 16:40

Lab Sample ID: 590-9012-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/03/18 18:59	1
1,1-Dichloroethane	ND		1.0		ug/L			08/03/18 18:59	1
2,2-Dichloropropane	ND		2.0		ug/L			08/03/18 18:59	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/03/18 18:59	1
Bromochloromethane	ND		2.0		ug/L			08/03/18 18:59	1
Chloroform	ND		1.0		ug/L			08/03/18 18:59	1
1,1,1-Trichloroethane	ND		1.0		ug/L			08/03/18 18:59	1
Carbon tetrachloride	ND		1.0		ug/L			08/03/18 18:59	1
1,1-Dichloropropene	ND		1.0		ug/L			08/03/18 18:59	1
Benzene	ND		0.40		ug/L			08/03/18 18:59	1
1,2-Dichloroethane	ND		1.0		ug/L			08/03/18 18:59	1
Trichloroethene	ND		1.0		ug/L			08/03/18 18:59	1
1,2-Dichloropropane	ND		1.0		ug/L			08/03/18 18:59	1
Dibromomethane	ND		2.0		ug/L			08/03/18 18:59	1
Bromodichloromethane	ND		1.0		ug/L			08/03/18 18:59	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/03/18 18:59	1
Toluene	ND		1.0		ug/L			08/03/18 18:59	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/03/18 18:59	1
1,1,2-Trichloroethane	ND		2.0		ug/L			08/03/18 18:59	1
Tetrachloroethene	ND		1.0		ug/L			08/03/18 18:59	1
1,3-Dichloropropane	ND		2.0		ug/L			08/03/18 18:59	1
Dibromochloromethane	ND		2.0		ug/L			08/03/18 18:59	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			08/03/18 18:59	1
Chlorobenzene	ND		1.0		ug/L			08/03/18 18:59	1
Ethylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			08/03/18 18:59	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			08/03/18 18:59	1
m,p-Xylene	ND		2.0		ug/L			08/03/18 18:59	1
o-Xylene	ND		1.0		ug/L			08/03/18 18:59	1
Styrene	ND		1.0		ug/L			08/03/18 18:59	1
Bromoform	ND		5.0		ug/L			08/03/18 18:59	1
Isopropylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
Bromobenzene	ND		1.0		ug/L			08/03/18 18:59	1
N-Propylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/03/18 18:59	1
2-Chlorotoluene	ND		1.0		ug/L			08/03/18 18:59	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
4-Chlorotoluene	ND		1.0		ug/L			08/03/18 18:59	1
tert-Butylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
sec-Butylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
1,3-Dichlorobenzene	ND		1.0		ug/L			08/03/18 18:59	1
p-Isopropyltoluene	ND		1.0		ug/L			08/03/18 18:59	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/03/18 18:59	1
n-Butylbenzene	ND		1.0		ug/L			08/03/18 18:59	1
1,2-Dichlorobenzene	ND		1.0		ug/L			08/03/18 18:59	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/03/18 18:59	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			08/03/18 18:59	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			08/03/18 18:59	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Client Sample ID: Trip Blank
Date Collected: 07/30/18 00:00
Date Received: 07/30/18 16:40

Lab Sample ID: 590-9012-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		2.0		ug/L			08/03/18 18:59	1
Naphthalene	ND		2.0		ug/L			08/03/18 18:59	1
Methyl tert-butyl ether	ND		1.0		ug/L			08/03/18 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*08/03/18 18:59*	*1*
4-Bromofluorobenzene (Surr)	*102*		*69 - 120*		*08/03/18 18:59*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*08/03/18 18:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 125*		*08/03/18 18:59*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-18057/1-A
Matrix: Solid
Analysis Batch: 18083

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18057

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichlorotrifluoroethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,1-Dichloroethene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,1-Dichloroethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,1,1-Trichloroethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,1-Dichloropropene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2-Dichloroethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2-Dichloropropane	ND		0.12		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
2,2-Dichloropropane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
2-Butanone (MEK)	ND		1.0		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
2-Hexanone	ND		1.0		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,1,2-Trichloroethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,3-Dichloropropane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Acetone	ND		3.0		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Benzene	ND		0.020		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2-Dibromoethane (EDB)	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Bromochloromethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Bromodichloromethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,1,1,2-Tetrachloroethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,1,2,2-Tetrachloroethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Bromomethane	ND		0.50		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Carbon disulfide	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Carbon tetrachloride	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Chlorobenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Bromoform	ND		0.20		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Chloroethane	ND		0.20		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Chloroform	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Bromobenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Chloromethane	ND		0.50		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
cis-1,2-Dichloroethene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2,3-Trichloropropane	ND		0.20		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
cis-1,3-Dichloropropene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
2-Chlorotoluene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Dibromochloromethane	ND		0.20		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,3,5-Trimethylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
4-Chlorotoluene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Dibromomethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Dichlorodifluoromethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Dichlorofluoromethane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Ethylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,3-Dichlorobenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Hexane	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,4-Dichlorobenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Isopropylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
m,p-Xylene	ND		0.40		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2-Dichlorobenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2-Dibromo-3-Chloropropane	ND		0.50		mg/Kg		08/01/18 17:44	08/02/18 16:53	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 590-18057/1-A
Matrix: Solid
Analysis Batch: 18083

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18057

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		0.35		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2,4-Trichlorobenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
1,2,3-Trichlorobenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
n-Butylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Hexachlorobutadiene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
N-Propylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Naphthalene	ND		0.20		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
o-Xylene	ND		0.20		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
p-Isopropyltoluene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
sec-Butylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Styrene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Methyl tert-butyl ether	ND		0.050		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
tert-Butylbenzene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Tetrachloroethene	ND		0.040		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Toluene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
trans-1,2-Dichloroethene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
trans-1,3-Dichloropropene	ND		0.10		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Trichloroethene	ND		0.025		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Trichlorofluoromethane	ND		0.20		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Vinyl chloride	ND		0.060		mg/Kg		08/01/18 17:44	08/02/18 16:53	1
Xylenes, Total	ND		0.60		mg/Kg		08/01/18 17:44	08/02/18 16:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*76 - 122*	*08/01/18 17:44*	*08/02/18 16:53*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*	*08/01/18 17:44*	*08/02/18 16:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 120*	*08/01/18 17:44*	*08/02/18 16:53*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*08/01/18 17:44*	*08/02/18 16:53*	*1*

Lab Sample ID: LCS 590-18057/2-A
Matrix: Solid
Analysis Batch: 18083

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18057

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichlorotrifluoroethane	0.500	0.561		mg/Kg		112	60 - 140
1,1-Dichloroethene	0.500	0.607		mg/Kg		121	73 - 135
1,1-Dichloroethane	0.500	0.538		mg/Kg		108	80 - 131
1,1,1-Trichloroethane	0.500	0.565		mg/Kg		113	74 - 138
1,1-Dichloropropene	0.500	0.477		mg/Kg		95	78 - 132
1,2-Dichloroethane	0.500	0.526		mg/Kg		105	61 - 142
1,2-Dichloropropane	0.500	0.486		mg/Kg		97	58 - 129
2,2-Dichloropropane	0.500	0.879	*	mg/Kg		176	60 - 150
2-Butanone (MEK)	2.50	2.45		mg/Kg		98	36 - 150
2-Hexanone	2.50	2.85		mg/Kg		114	59 - 127
1,1,2-Trichloroethane	0.500	0.485		mg/Kg		97	66 - 125
4-Methyl-2-pentanone (MIBK)	2.50	2.14		mg/Kg		86	54 - 131
1,3-Dichloropropane	0.500	0.546		mg/Kg		109	69 - 125
Acetone	2.50	3.35		mg/Kg		134	20 - 150
Benzene	0.500	0.507		mg/Kg		101	76 - 123

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18057/2-A
Matrix: Solid
Analysis Batch: 18083

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18057

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane (EDB)	0.500	0.525		mg/Kg		105	71 - 121
Bromochloromethane	0.500	0.519		mg/Kg		104	69 - 139
Bromodichloromethane	0.500	0.542		mg/Kg		108	72 - 128
1,1,1,2-Tetrachloroethane	0.500	0.585		mg/Kg		117	80 - 120
1,1,2,2-Tetrachloroethane	0.500	0.508		mg/Kg		102	60 - 137
Bromomethane	0.500	0.543		mg/Kg		109	32 - 150
Carbon disulfide	0.500	0.564		mg/Kg		113	67 - 135
Carbon tetrachloride	0.500	0.551		mg/Kg		110	74 - 135
Chlorobenzene	0.500	0.562		mg/Kg		112	80 - 120
Bromoform	0.500	0.520		mg/Kg		104	58 - 126
Chloroethane	0.500	0.619		mg/Kg		124	30 - 150
Chloroform	0.500	0.501		mg/Kg		100	73 - 130
Bromobenzene	0.500	0.515		mg/Kg		103	67 - 129
Chloromethane	0.500	0.463	J	mg/Kg		93	46 - 146
cis-1,2-Dichloroethene	0.500	0.493		mg/Kg		99	80 - 126
1,2,3-Trichloropropane	0.500	0.554		mg/Kg		111	60 - 131
cis-1,3-Dichloropropene	0.500	0.485		mg/Kg		97	70 - 126
2-Chlorotoluene	0.500	0.574		mg/Kg		115	69 - 129
Dibromochloromethane	0.500	0.545		mg/Kg		109	67 - 127
1,3,5-Trimethylbenzene	0.500	0.596		mg/Kg		119	68 - 133
4-Chlorotoluene	0.500	0.593		mg/Kg		119	66 - 133
Dibromomethane	0.500	0.506		mg/Kg		101	67 - 129
Dichlorodifluoromethane	0.500	0.293		mg/Kg		59	28 - 150
1,2,4-Trimethylbenzene	0.500	0.521		mg/Kg		104	68 - 132
Dichlorofluoromethane	0.500	0.563		mg/Kg		113	54 - 150
Ethylbenzene	0.500	0.558		mg/Kg		112	77 - 121
1,3-Dichlorobenzene	0.500	0.529		mg/Kg		106	80 - 122
Hexane	0.500	0.524		mg/Kg		105	65 - 139
1,4-Dichlorobenzene	0.500	0.539		mg/Kg		108	72 - 125
Isopropylbenzene	0.500	0.552		mg/Kg		110	78 - 131
m,p-Xylene	0.500	0.585		mg/Kg		117	78 - 124
1,2-Dichlorobenzene	0.500	0.537		mg/Kg		107	73 - 124
1,2-Dibromo-3-Chloropropane	0.500	0.527		mg/Kg		105	49 - 132
Methylene Chloride	0.500	0.551		mg/Kg		110	20 - 150
1,2,4-Trichlorobenzene	0.500	0.578		mg/Kg		116	67 - 126
1,2,3-Trichlorobenzene	0.500	0.606		mg/Kg		121	62 - 127
n-Butylbenzene	0.500	0.548		mg/Kg		110	67 - 131
Hexachlorobutadiene	0.500	0.549		mg/Kg		110	72 - 130
N-Propylbenzene	0.500	0.546		mg/Kg		109	67 - 131
Naphthalene	0.500	0.568		mg/Kg		114	55 - 128
o-Xylene	0.500	0.546		mg/Kg		109	77 - 129
p-Isopropyltoluene	0.500	0.520		mg/Kg		104	67 - 130
sec-Butylbenzene	0.500	0.539		mg/Kg		108	70 - 130
Styrene	0.500	0.513		mg/Kg		103	70 - 128
Methyl tert-butyl ether	0.500	0.524		mg/Kg		105	67 - 130
tert-Butylbenzene	0.500	0.533		mg/Kg		107	69 - 130
Tetrachloroethene	0.500	0.529		mg/Kg		106	70 - 134
Toluene	0.500	0.503		mg/Kg		101	77 - 125

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18057/2-A
Matrix: Solid
Analysis Batch: 18083

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18057

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	0.500	0.625		mg/Kg		125	73 - 133
trans-1,3-Dichloropropene	0.500	0.505		mg/Kg		101	68 - 124
Trichloroethene	0.500	0.528		mg/Kg		106	79 - 127
Trichlorofluoromethane	0.500	0.551		mg/Kg		110	53 - 150
Vinyl chloride	0.500	0.496		mg/Kg		99	38 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*76 - 122*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 590-18107/5
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0		ug/L			08/03/18 17:32	1
1,1-Dichloroethane	ND		1.0		ug/L			08/03/18 17:32	1
1,1,1-Trichloroethane	ND		1.0		ug/L			08/03/18 17:32	1
1,1-Dichloropropene	ND		1.0		ug/L			08/03/18 17:32	1
1,2-Dichloroethane	ND		1.0		ug/L			08/03/18 17:32	1
1,2-Dichloropropane	ND		1.0		ug/L			08/03/18 17:32	1
2,2-Dichloropropane	ND		2.0		ug/L			08/03/18 17:32	1
1,1,2-Trichloroethane	ND		2.0		ug/L			08/03/18 17:32	1
1,3-Dichloropropane	ND		2.0		ug/L			08/03/18 17:32	1
Benzene	ND		0.40		ug/L			08/03/18 17:32	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			08/03/18 17:32	1
Bromochloromethane	ND		2.0		ug/L			08/03/18 17:32	1
Bromodichloromethane	ND		1.0		ug/L			08/03/18 17:32	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			08/03/18 17:32	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			08/03/18 17:32	1
Bromomethane	ND		5.0		ug/L			08/03/18 17:32	1
Carbon tetrachloride	ND		1.0		ug/L			08/03/18 17:32	1
Chlorobenzene	ND		1.0		ug/L			08/03/18 17:32	1
Bromoform	ND		5.0		ug/L			08/03/18 17:32	1
Chloroethane	ND		2.0		ug/L			08/03/18 17:32	1
Chloroform	ND		1.0		ug/L			08/03/18 17:32	1
Bromobenzene	ND		1.0		ug/L			08/03/18 17:32	1
Chloromethane	ND		3.0		ug/L			08/03/18 17:32	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/03/18 17:32	1
1,2,3-Trichloropropane	ND		2.0		ug/L			08/03/18 17:32	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			08/03/18 17:32	1
2-Chlorotoluene	ND		1.0		ug/L			08/03/18 17:32	1
Dibromochloromethane	ND		2.0		ug/L			08/03/18 17:32	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
4-Chlorotoluene	ND		1.0		ug/L			08/03/18 17:32	1
Dibromomethane	ND		2.0		ug/L			08/03/18 17:32	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 590-18107/5
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.0		ug/L			08/03/18 17:32	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
Ethylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
1,3-Dichlorobenzene	ND		1.0		ug/L			08/03/18 17:32	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/03/18 17:32	1
Isopropylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
m,p-Xylene	ND		2.0		ug/L			08/03/18 17:32	1
1,2-Dichlorobenzene	ND		1.0		ug/L			08/03/18 17:32	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			08/03/18 17:32	1
Methylene Chloride	ND		5.0		ug/L			08/03/18 17:32	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			08/03/18 17:32	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			08/03/18 17:32	1
n-Butylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
Hexachlorobutadiene	ND		2.0		ug/L			08/03/18 17:32	1
N-Propylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
Naphthalene	ND		2.0		ug/L			08/03/18 17:32	1
o-Xylene	ND		1.0		ug/L			08/03/18 17:32	1
p-Isopropyltoluene	ND		1.0		ug/L			08/03/18 17:32	1
sec-Butylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
Styrene	ND		1.0		ug/L			08/03/18 17:32	1
Methyl tert-butyl ether	ND		1.0		ug/L			08/03/18 17:32	1
tert-Butylbenzene	ND		1.0		ug/L			08/03/18 17:32	1
Tetrachloroethene	ND		1.0		ug/L			08/03/18 17:32	1
Toluene	ND		1.0		ug/L			08/03/18 17:32	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/03/18 17:32	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			08/03/18 17:32	1
Trichloroethene	ND		1.0		ug/L			08/03/18 17:32	1
Trichlorofluoromethane	ND		1.0		ug/L			08/03/18 17:32	1
Vinyl chloride	ND		0.40		ug/L			08/03/18 17:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*69 - 120*		*08/03/18 17:32*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*08/03/18 17:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 125*		*08/03/18 17:32*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*08/03/18 17:32*	*1*

Lab Sample ID: LCS 590-18107/1003
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.3		ug/L		103	69 - 127
1,1-Dichloroethane	10.0	9.86		ug/L		99	79 - 121
1,1,1-Trichloroethane	10.0	10.0		ug/L		100	71 - 130
1,1-Dichloropropene	10.0	9.42		ug/L		94	76 - 125
1,2-Dichloroethane	10.0	10.2		ug/L		102	68 - 127
1,2-Dichloropropane	10.0	10.1		ug/L		101	76 - 121
2,2-Dichloropropane	10.0	9.71		ug/L		97	49 - 147

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18107/1003
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	76 - 120
1,3-Dichloropropane	10.0	10.0		ug/L		100	75 - 120
Benzene	10.0	9.77		ug/L		98	80 - 120
1,2-Dibromoethane (EDB)	10.0	10.3		ug/L		103	70 - 120
Bromochloromethane	10.0	10.7		ug/L		107	70 - 126
Bromodichloromethane	10.0	9.15		ug/L		91	67 - 125
1,1,1,2-Tetrachloroethane	10.0	10.2		ug/L		102	75 - 124
1,1,2,2-Tetrachloroethane	10.0	10.0		ug/L		100	66 - 122
Bromomethane	10.0	7.96		ug/L		80	45 - 150
Carbon tetrachloride	10.0	8.61		ug/L		86	68 - 134
Chlorobenzene	10.0	10.1		ug/L		101	79 - 125
Bromoform	10.0	8.84		ug/L		88	60 - 122
Chloroethane	10.0	10.6		ug/L		106	48 - 150
Chloroform	10.0	10.1		ug/L		101	73 - 126
Bromobenzene	10.0	9.48		ug/L		95	74 - 121
Chloromethane	10.0	9.60		ug/L		96	51 - 150
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 121
1,2,3-Trichloropropane	10.0	9.59		ug/L		96	60 - 124
cis-1,3-Dichloropropene	10.0	8.94		ug/L		89	72 - 120
2-Chlorotoluene	10.0	9.37		ug/L		94	75 - 121
Dibromochloromethane	10.0	9.33		ug/L		93	72 - 120
1,3,5-Trimethylbenzene	10.0	9.29		ug/L		93	75 - 122
4-Chlorotoluene	10.0	9.13		ug/L		91	74 - 120
Dibromomethane	10.0	10.6		ug/L		106	71 - 120
Dichlorodifluoromethane	10.0	9.04		ug/L		90	32 - 150
1,2,4-Trimethylbenzene	10.0	9.09		ug/L		91	77 - 120
Ethylbenzene	10.0	9.72		ug/L		97	80 - 120
1,3-Dichlorobenzene	10.0	9.89		ug/L		99	77 - 120
1,4-Dichlorobenzene	10.0	10.0		ug/L		100	77 - 121
Isopropylbenzene	10.0	9.42		ug/L		94	77 - 123
m,p-Xylene	10.0	9.93		ug/L		99	80 - 120
1,2-Dichlorobenzene	10.0	9.91		ug/L		99	78 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.08	J	ug/L		81	36 - 140
Methylene Chloride	10.0	11.5		ug/L		115	20 - 150
1,2,4-Trichlorobenzene	10.0	9.89		ug/L		99	66 - 124
1,2,3-Trichlorobenzene	10.0	10.5		ug/L		105	60 - 125
n-Butylbenzene	10.0	9.02		ug/L		90	71 - 120
Hexachlorobutadiene	10.0	9.62		ug/L		96	62 - 132
N-Propylbenzene	10.0	9.54		ug/L		95	76 - 120
Naphthalene	10.0	9.95		ug/L		99	63 - 124
o-Xylene	10.0	9.48		ug/L		95	80 - 120
p-Isopropyltoluene	10.0	9.44		ug/L		94	77 - 120
sec-Butylbenzene	10.0	9.71		ug/L		97	74 - 121
Styrene	10.0	9.20		ug/L		92	73 - 120
Methyl tert-butyl ether	10.0	10.4		ug/L		104	71 - 128
tert-Butylbenzene	10.0	9.14		ug/L		91	79 - 120
Tetrachloroethene	10.0	10.3		ug/L		103	71 - 132
Toluene	10.0	10.2		ug/L		102	80 - 123

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18107/1003
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	10.0	9.91		ug/L		99	75 - 124
trans-1,3-Dichloropropene	10.0	9.43		ug/L		94	70 - 121
Trichloroethene	10.0	9.59		ug/L		96	75 - 129
Trichlorofluoromethane	10.0	6.56		ug/L		66	60 - 140
Vinyl chloride	10.0	8.91		ug/L		89	42 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*69 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 125*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 590-18107/6
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	10.0	11.2		ug/L		112	69 - 127	8	14
1,1-Dichloroethane	10.0	10.2		ug/L		102	79 - 121	3	25
1,1,1-Trichloroethane	10.0	10.6		ug/L		106	71 - 130	6	25
1,1-Dichloropropene	10.0	9.92		ug/L		99	76 - 125	5	15
1,2-Dichloroethane	10.0	11.0		ug/L		110	68 - 127	8	12
1,2-Dichloropropane	10.0	11.0		ug/L		110	76 - 121	9	15
2,2-Dichloropropane	10.0	11.0		ug/L		110	49 - 147	13	25
1,1,2-Trichloroethane	10.0	11.2		ug/L		112	76 - 120	10	15
1,3-Dichloropropane	10.0	10.3		ug/L		103	75 - 120	2	15
Benzene	10.0	10.1		ug/L		101	80 - 120	3	25
1,2-Dibromoethane (EDB)	10.0	10.8		ug/L		108	70 - 120	5	25
Bromochloromethane	10.0	11.4		ug/L		114	70 - 126	6	25
Bromodichloromethane	10.0	9.65		ug/L		97	67 - 125	5	15
1,1,1,2-Tetrachloroethane	10.0	10.2		ug/L		102	75 - 124	0	15
1,1,2,2-Tetrachloroethane	10.0	11.0		ug/L		110	66 - 122	9	15
Bromomethane	10.0	9.96		ug/L		100	45 - 150	22	25
Carbon tetrachloride	10.0	9.27		ug/L		93	68 - 134	7	25
Chlorobenzene	10.0	10.3		ug/L		103	79 - 125	2	25
Bromoform	10.0	9.43		ug/L		94	60 - 122	6	15
Chloroethane	10.0	11.3		ug/L		113	48 - 150	7	25
Chloroform	10.0	10.1		ug/L		101	73 - 126	0	25
Bromobenzene	10.0	9.63		ug/L		96	74 - 121	2	15
Chloromethane	10.0	10.2		ug/L		102	51 - 150	6	15
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	76 - 121	4	25
1,2,3-Trichloropropane	10.0	10.2		ug/L		102	60 - 124	6	15
cis-1,3-Dichloropropene	10.0	9.67		ug/L		97	72 - 120	8	15
2-Chlorotoluene	10.0	9.30		ug/L		93	75 - 121	1	15
Dibromochloromethane	10.0	9.63		ug/L		96	72 - 120	3	15
1,3,5-Trimethylbenzene	10.0	9.28		ug/L		93	75 - 122	0	15
4-Chlorotoluene	10.0	9.45		ug/L		95	74 - 120	3	15
Dibromomethane	10.0	10.8		ug/L		108	71 - 120	2	15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 590-18107/6
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	9.62		ug/L		96	32 - 150	6	25
1,2,4-Trimethylbenzene	10.0	9.18		ug/L		92	77 - 120	1	15
Ethylbenzene	10.0	9.96		ug/L		100	80 - 120	2	25
1,3-Dichlorobenzene	10.0	10.0		ug/L		100	77 - 120	2	15
1,4-Dichlorobenzene	10.0	10.1		ug/L		101	77 - 121	0	15
Isopropylbenzene	10.0	9.37		ug/L		94	77 - 123	1	15
m,p-Xylene	10.0	9.95		ug/L		100	80 - 120	0	25
1,2-Dichlorobenzene	10.0	10.4		ug/L		104	78 - 120	4	15
1,2-Dibromo-3-Chloropropane	10.0	8.00	J	ug/L		80	36 - 140	1	15
Methylene Chloride	10.0	12.1		ug/L		121	20 - 150	5	25
1,2,4-Trichlorobenzene	10.0	10.1		ug/L		101	66 - 124	2	15
1,2,3-Trichlorobenzene	10.0	10.7		ug/L		107	60 - 125	2	15
n-Butylbenzene	10.0	9.09		ug/L		91	71 - 120	1	15
Hexachlorobutadiene	10.0	10.2		ug/L		102	62 - 132	6	15
N-Propylbenzene	10.0	9.49		ug/L		95	76 - 120	1	15
Naphthalene	10.0	11.1		ug/L		111	63 - 124	11	25
o-Xylene	10.0	9.91		ug/L		99	80 - 120	4	25
p-Isopropyltoluene	10.0	9.44		ug/L		94	77 - 120	0	15
sec-Butylbenzene	10.0	9.75		ug/L		98	74 - 121	0	15
Styrene	10.0	9.39		ug/L		94	73 - 120	2	15
Methyl tert-butyl ether	10.0	10.5		ug/L		105	71 - 128	0	12
tert-Butylbenzene	10.0	9.56		ug/L		96	79 - 120	5	15
Tetrachloroethene	10.0	10.3		ug/L		103	71 - 132	0	15
Toluene	10.0	10.1		ug/L		101	80 - 123	1	25
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124	5	25
trans-1,3-Dichloropropene	10.0	10.0		ug/L		100	70 - 121	6	15
Trichloroethene	10.0	9.76		ug/L		98	75 - 129	2	25
Trichlorofluoromethane	10.0	7.45		ug/L		75	60 - 140	13	25
Vinyl chloride	10.0	9.79		ug/L		98	42 - 150	9	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 125*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Lab Sample ID: MB 590-18057/1-A
Matrix: Solid
Analysis Batch: 18059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18057

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		08/01/18 17:44	08/02/18 05:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41.5 - 162*	*08/01/18 17:44*	*08/02/18 05:02*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS) (Continued)

Lab Sample ID: LCS 590-18057/3-A
Matrix: Solid
Analysis Batch: 18059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18057

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	50.0	50.7		mg/Kg		101	74.4 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41.5 - 162*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-18012/1-A
Matrix: Solid
Analysis Batch: 18014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18012

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
1-Methylnaphthalene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Acenaphthylene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Acenaphthene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Fluorene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Phenanthrene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Anthracene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Fluoranthene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Pyrene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Benzo[a]anthracene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Chrysene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Benzo[b]fluoranthene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Benzo[k]fluoranthene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Benzo[a]pyrene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		07/31/18 10:15	07/31/18 12:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*86*		*23 - 120*	*07/31/18 10:15*	*07/31/18 12:48*	*1*
2-Fluorobiphenyl (Surr)	*91*		*38 - 123*	*07/31/18 10:15*	*07/31/18 12:48*	*1*
p-Terphenyl-d14	*110*		*68 - 136*	*07/31/18 10:15*	*07/31/18 12:48*	*1*

Lab Sample ID: LCS 590-18012/3-A
Matrix: Solid
Analysis Batch: 18014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18012

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene	267	208		ug/Kg		78	39 - 132
1-Methylnaphthalene	267	233		ug/Kg		87	46 - 131
Acenaphthylene	267	193		ug/Kg		72	56 - 123
Acenaphthene	267	209		ug/Kg		78	43 - 140
Fluorene	267	206		ug/Kg		77	54 - 131
Phenanthrene	267	214		ug/Kg		80	55 - 141
Anthracene	267	232		ug/Kg		87	60 - 129

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-18012/3-A
Matrix: Solid
Analysis Batch: 18014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18012

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoranthene	267	233		ug/Kg		87	63 - 141
Pyrene	267	248		ug/Kg		93	62 - 139
Benzo[a]anthracene	267	229		ug/Kg		86	61 - 136
Chrysene	267	243		ug/Kg		91	57 - 144
Benzo[b]fluoranthene	267	230		ug/Kg		86	66 - 141
Benzo[k]fluoranthene	267	230		ug/Kg		86	63 - 150
Benzo[a]pyrene	267	218		ug/Kg		82	60 - 133
Indeno[1,2,3-cd]pyrene	267	227		ug/Kg		85	55 - 142
Dibenz(a,h)anthracene	267	222		ug/Kg		83	60 - 150
Benzo[g,h,i]perylene	267	233		ug/Kg		87	58 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*83*		*23 - 120*
2-Fluorobiphenyl (Surr)	*87*		*38 - 123*
p-Terphenyl-d14	*103*		*68 - 136*

Lab Sample ID: LCSD 590-18012/4-A
Matrix: Solid
Analysis Batch: 18014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18012

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylnaphthalene	267	205		ug/Kg		77	39 - 132	2	35
1-Methylnaphthalene	267	222		ug/Kg		83	46 - 131	5	35
Acenaphthylene	267	202		ug/Kg		76	56 - 123	5	35
Acenaphthene	267	218		ug/Kg		82	43 - 140	4	35
Fluorene	267	215		ug/Kg		81	54 - 131	4	35
Phenanthrene	267	207		ug/Kg		78	55 - 141	3	35
Anthracene	267	230		ug/Kg		86	60 - 129	1	35
Fluoranthene	267	231		ug/Kg		87	63 - 141	1	35
Pyrene	267	241		ug/Kg		90	62 - 139	3	35
Benzo[a]anthracene	267	235		ug/Kg		88	61 - 136	2	35
Chrysene	267	237		ug/Kg		89	57 - 144	3	35
Benzo[b]fluoranthene	267	240		ug/Kg		90	66 - 141	4	35
Benzo[k]fluoranthene	267	230		ug/Kg		86	63 - 150	0	35
Benzo[a]pyrene	267	224		ug/Kg		84	60 - 133	3	35
Indeno[1,2,3-cd]pyrene	267	223		ug/Kg		84	55 - 142	2	35
Dibenz(a,h)anthracene	267	222		ug/Kg		83	60 - 150	0	35
Benzo[g,h,i]perylene	267	230		ug/Kg		86	58 - 147	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*81*		*23 - 120*
2-Fluorobiphenyl (Surr)	*92*		*38 - 123*
p-Terphenyl-d14	*99*		*68 - 136*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 590-18016/1-A
Matrix: Solid
Analysis Batch: 18022

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg		07/31/18 13:25	07/31/18 16:39	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg		07/31/18 13:25	07/31/18 16:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*102*		*50 - 150*	*07/31/18 13:25*	*07/31/18 16:39*	*1*
n-Triacontane-d62	*100*		*50 - 150*	*07/31/18 13:25*	*07/31/18 16:39*	*1*

Lab Sample ID: LCS 590-18016/4-A
Matrix: Solid
Analysis Batch: 18022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18016

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			66.7	68.3		mg/Kg		102	50 - 150		
Residual Range Organics (RRO) (C25-C36)			66.7	62.8		mg/Kg		94	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*101*		*50 - 150*
n-Triacontane-d62	*101*		*50 - 150*

Lab Sample ID: LCSD 590-18016/5-A
Matrix: Solid
Analysis Batch: 18022

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18016

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)			66.7	73.6		mg/Kg		110	50 - 150	8	25
Residual Range Organics (RRO) (C25-C36)			66.7	67.9		mg/Kg		102	50 - 150	8	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*104*		*50 - 150*
n-Triacontane-d62	*105*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-18007/2-A
Matrix: Solid
Analysis Batch: 18035

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		07/31/18 09:11	07/31/18 14:12	1
Barium	ND		1.3		mg/Kg		07/31/18 09:11	07/31/18 14:12	1
Cadmium	ND		1.0		mg/Kg		07/31/18 09:11	07/31/18 14:12	1
Chromium	ND		1.3		mg/Kg		07/31/18 09:11	07/31/18 14:12	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 590-18007/2-A
Matrix: Solid
Analysis Batch: 18035

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		3.0		mg/Kg		07/31/18 09:11	07/31/18 14:12	1
Selenium	ND		5.0		mg/Kg		07/31/18 09:11	07/31/18 14:12	1
Silver	ND		1.3		mg/Kg		07/31/18 09:11	07/31/18 14:12	1

Lab Sample ID: LCS 590-18007/1-A
Matrix: Solid
Analysis Batch: 18035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	48.6		mg/Kg		97	80 - 120
Barium	50.0	52.1		mg/Kg		104	80 - 120
Cadmium	50.0	50.3		mg/Kg		101	80 - 120
Chromium	50.0	50.3		mg/Kg		101	80 - 120
Lead	50.0	51.4		mg/Kg		103	80 - 120
Selenium	50.0	49.0		mg/Kg		98	80 - 120
Silver	50.0	50.9		mg/Kg		102	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-18008/9-A
Matrix: Solid
Analysis Batch: 18027

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18008

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		07/31/18 09:21	07/31/18 14:47	1

Lab Sample ID: LCS 590-18008/8-A
Matrix: Solid
Analysis Batch: 18027

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18008

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	205		ug/Kg		103	80 - 120

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Client Sample ID: HSP-TP1:073018
Date Collected: 07/30/18 13:00
Date Received: 07/30/18 16:40

Lab Sample ID: 590-9012-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18034	08/01/18 09:09	CWD	TAL SPK

Client Sample ID: HSP-TP1:073018
Date Collected: 07/30/18 13:00
Date Received: 07/30/18 16:40

Lab Sample ID: 590-9012-1
Matrix: Solid
Percent Solids: 87.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.38 g	4.49 mL	18057	08/01/18 17:44	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18083	08/02/18 18:35	MRS	TAL SPK
Total/NA	Prep	5035			7.38 g	4.49 mL	18057	08/01/18 17:44	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18059	08/02/18 09:02	MRS	TAL SPK
Total/NA	Prep	3550C			15.29 g	2 mL	18012	07/31/18 10:15	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18014	07/31/18 20:16	NMI	TAL SPK
Total/NA	Prep	3550C			15.29 g	2 mL	18012	07/31/18 10:15	MO	TAL SPK
Total/NA	Analysis	8270D SIM		10			18039	08/01/18 12:02	NMI	TAL SPK
Total/NA	Prep	3550C			15.43 g	5 mL	18016	07/31/18 14:11	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			18022	07/31/18 21:51	NMI	TAL SPK
Total/NA	Prep	3050B			1.21 g	50 mL	18007	07/31/18 09:11	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18035	07/31/18 14:54	JSP	TAL SPK
Total/NA	Prep	7471B			0.70 g	50 mL	18008	07/31/18 09:21	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18027	07/31/18 15:55	JSP	TAL SPK

Client Sample ID: Trip Blank
Date Collected: 07/30/18 00:00
Date Received: 07/30/18 16:40

Lab Sample ID: 590-9012-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	18107	08/03/18 18:59	MRS	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Laboratory: TestAmerica Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9012-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
5030C	Purge and Trap	SW846	TAL SPK
5035	Closed System Purge and Trap	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency
NWTPH = Northwest Total Petroleum Hydrocarbon
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

590-9012 Chain of Custody

11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
al Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: GeoEngineers

REPORT TO: jsugalski@geoengineers.com
ADDRESS: 523 E. Second Ave
Spokane, WA 99202
PHONE: 509-363-3125 FAX:

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Riverfront Park
PROJECT NUMBER: 0110-148-06
SAMPLED BY: JMR

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: X STD. | X | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	VOCs 8260	NWTPH DX	NWTPH GX	RCRA 8 Metals	PAHs 8270 SIM	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	HSP-TP1:073018	7/30/18 1300	X	X	X	X	X	S	4	Depth 3-4'	
2	Trip Blank		X								
3											
4											
5											
6											
7											
8											
9											
10											

RELEASED BY: Josh Lee
PRINT NAME: Josh Lee FIRM: GEI DATE: 7/30/18 TIME: 1545
RECEIVED BY: Justin Orr
PRINT NAME: Justin Orr FIRM: GEI DATE: 7/30/18 TIME: 1545

RELEASED BY: Justin Orr
PRINT NAME: Justin Orr FIRM: GEI DATE: 7/30/18 TIME: 1640
RECEIVED BY: Sheila Kratz
PRINT NAME: Sheila Kratz FIRM: TMCPDX DATE: 7/30/18 TIME: 1640

ADDITIONAL REMARKS:

TEMP: 4/C 7 PAGE 1 OF 1

IROG4

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-9012-1

Login Number: 9012
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

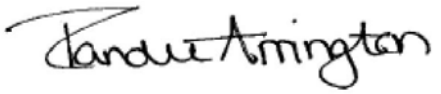
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-9164-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski



Authorized for release by:
8/28/2018 4:44:42 PM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Job ID: 590-9164-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 8/16/2018 4:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.0º C.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 590-18396 recovered outside acceptance criteria, low biased, for Acetone. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260C: The laboratory control sample (LCS) for preparation batch 590-18395 and analytical batch 590-18396 recovered outside control limits for the following analytes: Naphthalene. This analyte was biased high in the LCS and not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to oil overlap in the following samples: HSP-TP2-081618 (590-9164-1), HSP-TP2-DUP-081618 (590-9164-2) and (590-9164-C-1-B DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-9164-1	HSP-TP2-081618	Solid	08/16/18 10:30	08/17/18 16:40
590-9164-2	HSP-TP2-DUP-081618	Solid	08/16/18 08:00	08/17/18 16:40
590-9164-4	Trip Blank	Solid	08/16/18 00:00	08/17/18 16:40

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Client Sample ID: HSP-TP2-081618
Date Collected: 08/16/18 10:30
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-1
Matrix: Solid
Percent Solids: 95.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,1,1-Trichloroethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,1,2,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,1,2-Trichloroethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,1,2-Trichlorotrifluoroethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,1-Dichloroethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,1-Dichloroethene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,1-Dichloropropene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2,3-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2,3-Trichloropropane	ND		0.23		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2,4-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2,4-Trimethylbenzene	**0.13**		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2-Dibromo-3-Chloropropane	ND		0.56		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2-Dibromoethane (EDB)	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2-Dichloroethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,2-Dichloropropane	ND		0.14		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,3,5-Trimethylbenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,3-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,3-Dichloropropane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
1,4-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
2,2-Dichloropropane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
2-Butanone (MEK)	ND		1.1		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
2-Chlorotoluene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
2-Hexanone	ND		1.1		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
4-Chlorotoluene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
4-Methyl-2-pentanone (MIBK)	ND		1.1		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Acetone	ND		3.4		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Benzene	ND		0.023		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Bromobenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Bromochloromethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Bromodichloromethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Bromoform	ND		0.23		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Bromomethane	ND		0.56		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Carbon disulfide	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Carbon tetrachloride	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Chlorobenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Chloroethane	ND		0.23		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Chloroform	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Chloromethane	ND		0.56		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
cis-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
cis-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Dibromochloromethane	ND		0.23		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Dibromomethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Dichlorodifluoromethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Dichlorofluoromethane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Ethylbenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Hexachlorobutadiene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Hexane	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1

Client Sample ID: HSP-TP2-081618
Date Collected: 08/16/18 10:30
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-1
Matrix: Solid
Percent Solids: 95.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
m,p-Xylene	ND		0.45		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Methyl tert-butyl ether	ND		0.056		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Methylene Chloride	ND		0.40		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Naphthalene	ND	*	0.23		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
n-Butylbenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
N-Propylbenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
o-Xylene	ND		0.23		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
p-Isopropyltoluene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
sec-Butylbenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Styrene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
tert-Butylbenzene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Tetrachloroethene	ND		0.045		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Toluene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
trans-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
trans-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Trichloroethene	ND		0.028		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Trichlorofluoromethane	ND		0.23		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Vinyl chloride	ND		0.068		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1
Xylenes, Total	ND		0.68		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 120*	*08/20/18 09:24*	*08/20/18 17:00*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 122*	*08/20/18 09:24*	*08/20/18 17:00*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*	*08/20/18 09:24*	*08/20/18 17:00*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*08/20/18 09:24*	*08/20/18 17:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.6		mg/Kg	☼	08/20/18 09:24	08/20/18 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41.5 - 162*	*08/20/18 09:24*	*08/20/18 17:00*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**11**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
2-Methylnaphthalene	**33**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
1-Methylnaphthalene	**31**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Acenaphthylene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Acenaphthene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Fluorene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Phenanthrene	**20**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Anthracene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Fluoranthene	**37**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Pyrene	**46**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Benzo[a]anthracene	**22**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Chrysene	**31**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Benzo[b]fluoranthene	**31**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Benzo[k]fluoranthene	**11**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1

Client Sample ID: HSP-TP2-081618

Lab Sample ID: 590-9164-1
Date Collected: 08/16/18 10:30
Matrix: Solid
Date Received: 08/17/18 16:40
Percent Solids: 95.9

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**25**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Indeno[1,2,3-cd]pyrene	**18**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1
Benzo[g,h,i]perylene	**27**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 11:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*67*		*23 - 120*	*08/21/18 09:10*	*08/21/18 11:55*	*1*
2-Fluorobiphenyl (Surr)	*70*		*38 - 123*	*08/21/18 09:10*	*08/21/18 11:55*	*1*
p-Terphenyl-d14	*92*		*68 - 136*	*08/21/18 09:10*	*08/21/18 11:55*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**67**		9.9		mg/Kg	☼	08/20/18 11:50	08/23/18 16:04	1
Residual Range Organics (RRO) (C25-C36)	**280**		25		mg/Kg	☼	08/20/18 11:50	08/23/18 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*100*		*50 - 150*	*08/20/18 11:50*	*08/23/18 16:04*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*08/20/18 11:50*	*08/23/18 16:04*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**12**		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:50	2
Barium	**84**		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:50	2
Cadmium	ND		1.4		mg/Kg	☼	08/20/18 13:40	08/21/18 14:50	2
Chromium	**10**		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:50	2
Lead	**93**		4.3		mg/Kg	☼	08/20/18 13:40	08/21/18 14:50	2
Selenium	ND		7.2		mg/Kg	☼	08/20/18 13:40	08/21/18 14:50	2
Silver	ND		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:50	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		45		ug/Kg	☼	08/21/18 08:53	08/21/18 14:50	1

Client Sample ID: HSP-TP2-DUP-081618

Lab Sample ID: 590-9164-2
Date Collected: 08/16/18 08:00
Matrix: Solid
Date Received: 08/17/18 16:40
Percent Solids: 95.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,1,1-Trichloroethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,1,2,2-Tetrachloroethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,1,2-Trichloroethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,1,2-Trichlorotrifluoroethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,1-Dichloroethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,1-Dichloroethene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,1-Dichloropropene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2,3-Trichlorobenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2,3-Trichloropropane	ND		0.31		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Client Sample ID: HSP-TP2-DUP-081618
Date Collected: 08/16/18 08:00
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-2
Matrix: Solid
Percent Solids: 95.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2,4-Trimethylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2-Dibromo-3-Chloropropane	ND		0.76		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2-Dibromoethane (EDB)	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2-Dichlorobenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2-Dichloroethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,2-Dichloropropane	ND		0.18		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,3,5-Trimethylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,3-Dichlorobenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,3-Dichloropropane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
1,4-Dichlorobenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
2,2-Dichloropropane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
2-Butanone (MEK)	ND		1.5		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
2-Chlorotoluene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
2-Hexanone	ND		1.5		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
4-Chlorotoluene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
4-Methyl-2-pentanone (MIBK)	ND		1.5		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Acetone	ND		4.6		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Benzene	ND		0.031		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Bromobenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Bromochloromethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Bromodichloromethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Bromoform	ND		0.31		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Bromomethane	ND		0.76		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Carbon disulfide	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Carbon tetrachloride	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Chlorobenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Chloroethane	ND		0.31		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Chloroform	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Chloromethane	ND		0.76		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
cis-1,2-Dichloroethene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
cis-1,3-Dichloropropene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Dibromochloromethane	ND		0.31		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Dibromomethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Dichlorodifluoromethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Dichlorofluoromethane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Ethylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Hexachlorobutadiene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Hexane	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Isopropylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
m,p-Xylene	ND		0.61		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Methyl tert-butyl ether	ND		0.076		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Methylene Chloride	ND		0.53		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Naphthalene	ND	*	0.31		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
n-Butylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
N-Propylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
o-Xylene	ND		0.31		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
p-Isopropyltoluene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
sec-Butylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Client Sample ID: HSP-TP2-DUP-081618
Date Collected: 08/16/18 08:00
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-2
Matrix: Solid
Percent Solids: 95.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
tert-Butylbenzene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Tetrachloroethene	ND		0.061		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Toluene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
trans-1,2-Dichloroethene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
trans-1,3-Dichloropropene	ND		0.15		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Trichloroethene	ND		0.038		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Trichlorofluoromethane	ND		0.31		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Vinyl chloride	ND		0.092		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1
Xylenes, Total	ND		0.92		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 120*	*08/20/18 09:24*	*08/20/18 17:21*	*1*
4-Bromofluorobenzene (Surr)	*97*		*76 - 122*	*08/20/18 09:24*	*08/20/18 17:21*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*	*08/20/18 09:24*	*08/20/18 17:21*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*08/20/18 09:24*	*08/20/18 17:21*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.6		mg/Kg	☼	08/20/18 09:24	08/20/18 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41.5 - 162*	*08/20/18 09:24*	*08/20/18 17:21*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
2-Methylnaphthalene	**28**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
1-Methylnaphthalene	**26**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Acenaphthylene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Acenaphthene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Fluorene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Phenanthrene	**23**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Anthracene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Fluoranthene	**39**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Pyrene	**59**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Benzo[a]anthracene	**29**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Chrysene	**39**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Benzo[b]fluoranthene	**32**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Benzo[k]fluoranthene	**13**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Benzo[a]pyrene	**30**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Indeno[1,2,3-cd]pyrene	**19**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1
Benzo[g,h,i]perylene	**28**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*66*		*23 - 120*	*08/21/18 09:10*	*08/21/18 12:20*	*1*
2-Fluorobiphenyl (Surr)	*71*		*38 - 123*	*08/21/18 09:10*	*08/21/18 12:20*	*1*
p-Terphenyl-d14	*84*		*68 - 136*	*08/21/18 09:10*	*08/21/18 12:20*	*1*

Client Sample ID: HSP-TP2-DUP-081618

Lab Sample ID: 590-9164-2

Date Collected: 08/16/18 08:00

Matrix: Solid

Date Received: 08/17/18 16:40

Percent Solids: 95.1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	73		10		mg/Kg	☼	08/20/18 11:50	08/23/18 16:43	1
Residual Range Organics (RRO) (C25-C36)	290		26		mg/Kg	☼	08/20/18 11:50	08/23/18 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*50 - 150*	*08/20/18 11:50*	*08/23/18 16:43*	*1*
n-Triacontane-d62	*91*		*50 - 150*	*08/20/18 11:50*	*08/23/18 16:43*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:54	2
Barium	88		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:54	2
Cadmium	ND		1.4		mg/Kg	☼	08/20/18 13:40	08/21/18 14:54	2
Chromium	11		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:54	2
Lead	140		4.3		mg/Kg	☼	08/20/18 13:40	08/21/18 14:54	2
Selenium	ND		7.1		mg/Kg	☼	08/20/18 13:40	08/21/18 14:54	2
Silver	ND		1.8		mg/Kg	☼	08/20/18 13:40	08/21/18 14:54	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		43		ug/Kg	☼	08/21/18 08:53	08/21/18 14:59	1

Client Sample ID: Trip Blank

Lab Sample ID: 590-9164-4

Date Collected: 08/16/18 00:00

Matrix: Solid

Date Received: 08/17/18 16:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,1,1-Trichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,1,2,2-Tetrachloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,1,2-Trichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,1,2-Trichlorotrifluoroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,1-Dichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,1-Dichloroethene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,1-Dichloropropene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2,3-Trichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2,3-Trichloropropane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2,4-Trichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2-Dibromo-3-Chloropropane	ND		0.50		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2-Dibromoethane (EDB)	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2-Dichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2-Dichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,2-Dichloropropane	ND		0.12		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,3,5-Trimethylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,3-Dichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,3-Dichloropropane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
1,4-Dichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
2,2-Dichloropropane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Client Sample ID: Trip Blank
Date Collected: 08/16/18 00:00
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-4
Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		1.0		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
2-Chlorotoluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
2-Hexanone	ND		1.0		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
4-Chlorotoluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Acetone	ND		3.0		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Benzene	ND		0.020		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Bromobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Bromochloromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Bromodichloromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Bromoform	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Bromomethane	ND		0.50		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Carbon disulfide	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Carbon tetrachloride	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Chlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Chloroethane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Chloroform	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Chloromethane	ND		0.50		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
cis-1,2-Dichloroethene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
cis-1,3-Dichloropropene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Dibromochloromethane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Dibromomethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Dichlorodifluoromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Dichlorofluoromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Ethylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Hexachlorobutadiene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Hexane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Isopropylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
m,p-Xylene	ND		0.40		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Methyl tert-butyl ether	ND		0.050		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Methylene Chloride	**0.35**		0.35		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Naphthalene	ND	*	0.20		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
n-Butylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
N-Propylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
o-Xylene	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
p-Isopropyltoluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
sec-Butylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Styrene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
tert-Butylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Tetrachloroethene	ND		0.040		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Toluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
trans-1,2-Dichloroethene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
trans-1,3-Dichloropropene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Trichloroethene	ND		0.025		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Trichlorofluoromethane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Vinyl chloride	ND		0.060		mg/Kg		08/20/18 09:24	08/20/18 18:02	1
Xylenes, Total	ND		0.60		mg/Kg		08/20/18 09:24	08/20/18 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 120*	*08/20/18 09:24*	*08/20/18 18:02*	*1*

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Client Sample ID: Trip Blank
Date Collected: 08/16/18 00:00
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-4
Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		76 - 122	08/20/18 09:24	08/20/18 18:02	1
Dibromofluoromethane (Surr)	101		80 - 120	08/20/18 09:24	08/20/18 18:02	1
Toluene-d8 (Surr)	99		80 - 120	08/20/18 09:24	08/20/18 18:02	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-18395/1-A
Matrix: Solid
Analysis Batch: 18396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,1,1-Trichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,1,2,2-Tetrachloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,1,2-Trichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,1,2-Trichlorotrifluoroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,1-Dichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,1-Dichloroethene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,1-Dichloropropene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2,3-Trichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2,3-Trichloropropane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2,4-Trichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2-Dibromo-3-Chloropropane	ND		0.50		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2-Dibromoethane (EDB)	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2-Dichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2-Dichloroethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,2-Dichloropropane	ND		0.12		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,3,5-Trimethylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,3-Dichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,3-Dichloropropane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
1,4-Dichlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
2,2-Dichloropropane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
2-Butanone (MEK)	ND		1.0		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
2-Chlorotoluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
2-Hexanone	ND		1.0		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
4-Chlorotoluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Acetone	ND		3.0		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Benzene	ND		0.020		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Bromobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Bromochloromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Bromodichloromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Bromoform	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Bromomethane	ND		0.50		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Carbon disulfide	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Carbon tetrachloride	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Chlorobenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Chloroethane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Chloroform	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Chloromethane	ND		0.50		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
cis-1,2-Dichloroethene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
cis-1,3-Dichloropropene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Dibromochloromethane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Dibromomethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Dichlorodifluoromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Dichlorofluoromethane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Ethylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Hexachlorobutadiene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 590-18395/1-A
Matrix: Solid
Analysis Batch: 18396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Isopropylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
m,p-Xylene	ND		0.40		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Methyl tert-butyl ether	ND		0.050		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Methylene Chloride	ND		0.35		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Naphthalene	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
n-Butylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
N-Propylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
o-Xylene	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
p-Isopropyltoluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
sec-Butylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Styrene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
tert-Butylbenzene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Tetrachloroethene	ND		0.040		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Toluene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
trans-1,2-Dichloroethene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
trans-1,3-Dichloropropene	ND		0.10		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Trichloroethene	ND		0.025		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Trichlorofluoromethane	ND		0.20		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Vinyl chloride	ND		0.060		mg/Kg		08/20/18 09:24	08/20/18 10:29	1
Xylenes, Total	ND		0.60		mg/Kg		08/20/18 09:24	08/20/18 10:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 120*	*08/20/18 09:24*	*08/20/18 10:29*	*1*
4-Bromofluorobenzene (Surr)	*93*		*76 - 122*	*08/20/18 09:24*	*08/20/18 10:29*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*	*08/20/18 09:24*	*08/20/18 10:29*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*08/20/18 09:24*	*08/20/18 10:29*	*1*

Lab Sample ID: LCS 590-18395/2-A
Matrix: Solid
Analysis Batch: 18396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.500	0.553		mg/Kg		111	80 - 120
1,1,1-Trichloroethane	0.500	0.523		mg/Kg		105	74 - 138
1,1,2,2-Tetrachloroethane	0.500	0.590		mg/Kg		118	60 - 137
1,1,2-Trichloroethane	0.500	0.588		mg/Kg		118	66 - 125
1,1,2-Trichlorotrifluoroethane	0.500	0.574		mg/Kg		115	60 - 140
1,1-Dichloroethane	0.500	0.494		mg/Kg		99	80 - 131
1,1-Dichloroethene	0.500	0.537		mg/Kg		107	73 - 135
1,1-Dichloropropene	0.500	0.559		mg/Kg		112	78 - 132
1,2,3-Trichlorobenzene	0.500	0.630		mg/Kg		126	62 - 127
1,2,3-Trichloropropane	0.500	0.645		mg/Kg		129	60 - 131
1,2,4-Trichlorobenzene	0.500	0.540		mg/Kg		108	67 - 126
1,2,4-Trimethylbenzene	0.500	0.542		mg/Kg		108	68 - 132
1,2-Dibromo-3-Chloropropane	0.500	0.589		mg/Kg		118	49 - 132
1,2-Dichlorobenzene	0.500	0.533		mg/Kg		107	73 - 124
1,2-Dichloroethane	0.500	0.528		mg/Kg		106	61 - 142

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18395/2-A
Matrix: Solid
Analysis Batch: 18396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	0.500	0.552		mg/Kg		110	58 - 129
1,3,5-Trimethylbenzene	0.500	0.558		mg/Kg		112	68 - 133
1,3-Dichlorobenzene	0.500	0.550		mg/Kg		110	80 - 122
1,3-Dichloropropane	0.500	0.550		mg/Kg		110	69 - 125
1,4-Dichlorobenzene	0.500	0.550		mg/Kg		110	72 - 125
2,2-Dichloropropane	0.500	0.454		mg/Kg		91	60 - 150
2-Butanone (MEK)	2.50	2.91		mg/Kg		116	36 - 150
2-Chlorotoluene	0.500	0.547		mg/Kg		109	69 - 129
2-Hexanone	2.50	3.12		mg/Kg		125	59 - 127
4-Chlorotoluene	0.500	0.544		mg/Kg		109	66 - 133
4-Methyl-2-pentanone (MIBK)	2.50	2.96		mg/Kg		118	54 - 131
Acetone	2.50	2.19	J	mg/Kg		88	20 - 150
Benzene	0.500	0.542		mg/Kg		108	76 - 123
Bromobenzene	0.500	0.511		mg/Kg		102	67 - 129
Bromochloromethane	0.500	0.452		mg/Kg		90	69 - 139
Bromodichloromethane	0.500	0.533		mg/Kg		107	72 - 128
Bromoform	0.500	0.589		mg/Kg		118	58 - 126
Bromomethane	0.500	0.583		mg/Kg		117	32 - 150
Carbon disulfide	0.500	0.519		mg/Kg		104	67 - 135
Carbon tetrachloride	0.500	0.548		mg/Kg		110	74 - 135
Chlorobenzene	0.500	0.560		mg/Kg		112	80 - 120
Chloroethane	0.500	0.568		mg/Kg		114	30 - 150
Chloroform	0.500	0.536		mg/Kg		107	73 - 130
Chloromethane	0.500	0.436	J	mg/Kg		87	46 - 146
cis-1,2-Dichloroethene	0.500	0.508		mg/Kg		102	80 - 126
cis-1,3-Dichloropropene	0.500	0.554		mg/Kg		111	70 - 126
Dibromochloromethane	0.500	0.562		mg/Kg		112	67 - 127
Dibromomethane	0.500	0.529		mg/Kg		106	67 - 129
Dichlorodifluoromethane	0.500	0.326		mg/Kg		65	28 - 150
Dichlorofluoromethane	0.500	0.591		mg/Kg		118	54 - 150
Ethylbenzene	0.500	0.567		mg/Kg		113	77 - 121
Hexachlorobutadiene	0.500	0.536		mg/Kg		107	72 - 130
Hexane	0.500	0.543		mg/Kg		109	65 - 139
Isopropylbenzene	0.500	0.579		mg/Kg		116	78 - 131
m,p-Xylene	0.500	0.553		mg/Kg		111	78 - 124
Methyl tert-butyl ether	0.500	0.559		mg/Kg		112	67 - 130
Methylene Chloride	0.500	0.452		mg/Kg		90	20 - 150
Naphthalene	0.500	0.651	*	mg/Kg		130	55 - 128
n-Butylbenzene	0.500	0.547		mg/Kg		109	67 - 131
N-Propylbenzene	0.500	0.557		mg/Kg		111	67 - 131
o-Xylene	0.500	0.543		mg/Kg		109	77 - 129
p-Isopropyltoluene	0.500	0.570		mg/Kg		114	67 - 130
sec-Butylbenzene	0.500	0.556		mg/Kg		111	70 - 130
Styrene	0.500	0.522		mg/Kg		104	70 - 128
tert-Butylbenzene	0.500	0.558		mg/Kg		112	69 - 130
Tetrachloroethene	0.500	0.575		mg/Kg		115	70 - 134
Toluene	0.500	0.549		mg/Kg		110	77 - 125
trans-1,2-Dichloroethene	0.500	0.491		mg/Kg		98	73 - 133

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18395/2-A
Matrix: Solid
Analysis Batch: 18396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	0.500	0.564		mg/Kg		113	68 - 124
Trichloroethene	0.500	0.561		mg/Kg		112	79 - 127
Trichlorofluoromethane	0.500	0.534		mg/Kg		107	53 - 150
Vinyl chloride	0.500	0.478		mg/Kg		96	38 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 120*
4-Bromofluorobenzene (Surr)	*99*		*76 - 122*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Lab Sample ID: MB 590-18395/1-A
Matrix: Solid
Analysis Batch: 18397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		08/20/18 09:24	08/20/18 10:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*41.5 - 162*	*08/20/18 09:24*	*08/20/18 10:29*	*1*

Lab Sample ID: LCS 590-18395/3-A
Matrix: Solid
Analysis Batch: 18397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	50.0	52.6		mg/Kg		105	74.4 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41.5 - 162*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-18416/1-A
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
2-Methylnaphthalene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
1-Methylnaphthalene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Acenaphthylene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Acenaphthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Fluorene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Phenanthrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 590-18416/1-A
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Fluoranthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Pyrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[a]anthracene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Chrysene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[b]fluoranthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[k]fluoranthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[a]pyrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*74*		*23 - 120*	*08/21/18 09:10*	*08/21/18 11:05*	*1*
2-Fluorobiphenyl (Surr)	*77*		*38 - 123*	*08/21/18 09:10*	*08/21/18 11:05*	*1*
p-Terphenyl-d14	*104*		*68 - 136*	*08/21/18 09:10*	*08/21/18 11:05*	*1*

Lab Sample ID: LCS 590-18416/2-A
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	141		ug/Kg		53	41 - 121
2-Methylnaphthalene	267	184		ug/Kg		69	39 - 132
1-Methylnaphthalene	267	191		ug/Kg		72	46 - 131
Acenaphthylene	267	185		ug/Kg		69	56 - 123
Acenaphthene	267	177		ug/Kg		67	43 - 140
Fluorene	267	227		ug/Kg		85	54 - 131
Phenanthrene	267	205		ug/Kg		77	55 - 141
Anthracene	267	224		ug/Kg		84	60 - 129
Fluoranthene	267	224		ug/Kg		84	63 - 141
Pyrene	267	235		ug/Kg		88	62 - 139
Benzo[a]anthracene	267	232		ug/Kg		87	61 - 136
Chrysene	267	234		ug/Kg		88	57 - 144
Benzo[b]fluoranthene	267	233		ug/Kg		87	66 - 141
Benzo[k]fluoranthene	267	217		ug/Kg		81	63 - 150
Benzo[a]pyrene	267	221		ug/Kg		83	60 - 133
Indeno[1,2,3-cd]pyrene	267	236		ug/Kg		89	55 - 142
Dibenz(a,h)anthracene	267	237		ug/Kg		89	60 - 150
Benzo[g,h,i]perylene	267	237		ug/Kg		89	58 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*76*		*23 - 120*
2-Fluorobiphenyl (Surr)	*79*		*38 - 123*
p-Terphenyl-d14	*91*		*68 - 136*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 590-18399/1-A
Matrix: Solid
Analysis Batch: 18469

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg		08/20/18 11:50	08/23/18 15:24	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg		08/20/18 11:50	08/23/18 15:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*50 - 150*	*08/20/18 11:50*	*08/23/18 15:24*	*1*
n-Triacontane-d62	*86*		*50 - 150*	*08/20/18 11:50*	*08/23/18 15:24*	*1*

Lab Sample ID: LCS 590-18399/2-A
Matrix: Solid
Analysis Batch: 18469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	66.7	60.0		mg/Kg		90	50 - 150
Residual Range Organics (RRO) (C25-C36)	66.7	74.5		mg/Kg		112	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*102*		*50 - 150*
n-Triacontane-d62	*93*		*50 - 150*

Lab Sample ID: 590-9164-1 DU
Matrix: Solid
Analysis Batch: 18469

Client Sample ID: HSP-TP2-081618
Prep Type: Total/NA
Prep Batch: 18399

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	67		54.8		mg/Kg	☼	20	40
Residual Range Organics (RRO) (C25-C36)	280		217		mg/Kg	☼	26	40

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*105*		*50 - 150*
n-Triacontane-d62	*104*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-18401/2-A
Matrix: Solid
Analysis Batch: 18441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18401

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Barium	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Cadmium	ND		1.0		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Chromium	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 590-18401/2-A
Matrix: Solid
Analysis Batch: 18441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18401

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		3.0		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Selenium	ND		5.0		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Silver	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1

Lab Sample ID: LCS 590-18401/1-A
Matrix: Solid
Analysis Batch: 18441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18401

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	49.7		mg/Kg		99	80 - 120
Barium	50.0	52.9		mg/Kg		106	80 - 120
Cadmium	50.0	51.9		mg/Kg		104	80 - 120
Chromium	50.0	51.6		mg/Kg		103	80 - 120
Lead	50.0	52.6		mg/Kg		105	80 - 120
Selenium	50.0	49.0		mg/Kg		98	80 - 120
Silver	50.0	51.5		mg/Kg		103	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-18411/9-A
Matrix: Solid
Analysis Batch: 18435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18411

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		08/21/18 08:53	08/21/18 14:48	1

Lab Sample ID: LCS 590-18411/8-A
Matrix: Solid
Analysis Batch: 18435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18411

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	209		ug/Kg		105	80 - 120

Lab Sample ID: 590-9164-1 MS
Matrix: Solid
Analysis Batch: 18435

Client Sample ID: HSP-TP2-081618
Prep Type: Total/NA
Prep Batch: 18411

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND		200	250		ug/Kg	☼	103	80 - 120

Lab Sample ID: 590-9164-1 MSD
Matrix: Solid
Analysis Batch: 18435

Client Sample ID: HSP-TP2-081618
Prep Type: Total/NA
Prep Batch: 18411

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND		197	230		ug/Kg	☼	95	80 - 120	8	20

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: 590-9164-1 DU
Matrix: Solid
Analysis Batch: 18435

Client Sample ID: HSP-TP2-081618
Prep Type: Total/NA
Prep Batch: 18411

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Hg	ND			42.9		ug/Kg	☼			NC	20

Client Sample ID: HSP-TP2-081618 — **Lab Sample ID: 590-9164-1**
Date Collected: 08/16/18 10:30 — **Matrix: Solid**
Date Received: 08/17/18 16:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18410	08/21/18 08:39	CWD	TAL SPK

Client Sample ID: HSP-TP2-081618 — **Lab Sample ID: 590-9164-1**
Date Collected: 08/16/18 10:30 — **Matrix: Solid**
Date Received: 08/17/18 16:40 — **Percent Solids: 95.9**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.795 g	5 mL	18395	08/20/18 09:24	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18396	08/20/18 17:00	MRS	TAL SPK
Total/NA	Prep	5035			4.795 g	5 mL	18395	08/20/18 09:24	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18397	08/20/18 17:00	MRS	TAL SPK
Total/NA	Prep	3550C			15.13 g	2 mL	18416	08/21/18 09:10	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18417	08/21/18 11:55	NMI	TAL SPK
Total/NA	Prep	3550C			15.73 g	5 mL	18399	08/20/18 11:50	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			18469	08/23/18 16:04	NMI	TAL SPK
Total/NA	Prep	3050B			1.45 g	50 mL	18401	08/20/18 13:40	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18441	08/21/18 14:50	JSP	TAL SPK
Total/NA	Prep	7471B			0.58 g	50 mL	18411	08/21/18 08:53	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18435	08/21/18 14:50	JSP	TAL SPK

Client Sample ID: HSP-TP2-DUP-081618 — **Lab Sample ID: 590-9164-2**
Date Collected: 08/16/18 08:00 — **Matrix: Solid**
Date Received: 08/17/18 16:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18410	08/21/18 08:39	CWD	TAL SPK

Client Sample ID: HSP-TP2-DUP-081618 — **Lab Sample ID: 590-9164-2**
Date Collected: 08/16/18 08:00 — **Matrix: Solid**
Date Received: 08/17/18 16:40 — **Percent Solids: 95.1**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.562 g	5 mL	18395	08/20/18 09:24	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18396	08/20/18 17:21	MRS	TAL SPK
Total/NA	Prep	5035			3.562 g	5 mL	18395	08/20/18 09:24	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18397	08/20/18 17:21	MRS	TAL SPK
Total/NA	Prep	3550C			15.30 g	2 mL	18416	08/21/18 09:10	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18417	08/21/18 12:20	NMI	TAL SPK
Total/NA	Prep	3550C			15.06 g	5 mL	18399	08/20/18 11:50	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			18469	08/23/18 16:43	NMI	TAL SPK
Total/NA	Prep	3050B			1.47 g	50 mL	18401	08/20/18 13:40	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18441	08/21/18 14:54	JSP	TAL SPK
Total/NA	Prep	7471B			0.61 g	50 mL	18411	08/21/18 08:53	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Client Sample ID: HSP-TP2-DUP-081618

Lab Sample ID: 590-9164-2

Date Collected: 08/16/18 08:00
Matrix: Solid
Date Received: 08/17/18 16:40
Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7471B		1			18435	08/21/18 14:59	JSP	TAL SPK

Client Sample ID: Trip Blank

Lab Sample ID: 590-9164-4

Date Collected: 08/16/18 00:00
Matrix: Solid
Date Received: 08/17/18 16:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5 g	5 mL	18395	08/20/18 09:24	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18396	08/20/18 18:02	MRS	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Laboratory: TestAmerica Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-025	12-07-18
Oregon	NELAP	10	4137	12-07-18
Washington	State Program	10	C569	01-06-19

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
5035	Closed System Purge and Trap	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: JML	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-3852-1237.1
Client Contact: ~~Dave Lauder~~ JR Snyalski	Phone: 406-239-7810	E-Mail: randee.arrington@testamericainc.com		Page: Page 1 of 1
Company: GeoEngineers Inc				Job #:

Address: 523 East Second Ave	Due Date Requested:	Analysis Requested
City: Spokane	TAT Requested (days):	
State, Zip: WA, 99202		
Phone: 509-209-2830(Tel)	PO #: Purchase Order not required	
Email: dlauder@geoengineers.com	WO #:	
Project Name: Riverfront Park (0110-148-06)	Project #: 59000877	
Site:	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Gx_MS -	6010C, 7471B, 8270D_SIM, NWTPH_Dx, NWTPH_HCID	Dx - NWTPH HCID	VOCs 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				F	N				
HSP-TP2-081618	8/16/18	1030	G	Solid			X	X	X	X	3	
HSP-TP2-Dup-081618	8/16/18	0800	G	Solid			X	X	X	X	3	
HSP-SP1-081618	8/16/18	1100	C	Solid				X	X		2	72 hr TAT on this sample
Trip Blank	8/16/18		G	W						X		

590-9164 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Josh Lu	8/16/18 1500	GEI	Justin Orr	8/16/18 1500	GEI
Relinquished by: Justin Orr	Date/Time: 8/16/18 1635	Company GEI	Received by: Sheila Kratz	Date/Time: 8/16/18 1640	Company TAS-SPC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.0 °C IR004

Ver: 08/04/2016

8/28/2018

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-9164-1

Login Number: 9164

List Source: TestAmerica Spokane

List Number: 1

Creator: Kratz, Sheila J

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-9164-2
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski

Authorized for release by:
8/22/2018 1:49:29 PM
Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

Designee for

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Job ID: 590-9164-2

Laboratory: TestAmerica Spokane

Narrative

Job Narrative
590-9164-2

Comments
No additional comments.

Receipt
The samples were received on 8/16/2018 4:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.0º C.

GC/MS Semi VOA
Method(s) 8270D SIM: Due to the high concentration of Benzo[a]pyrene, Benzo[b]fluoranthene and Benzo[g,h,i]perylene, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 590-18416 and analytical batch 590-18417 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-9164-3	HSP-SP1-081618	Solid	08/16/18 11:00	08/17/18 16:40

Definitions/Glossary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-2

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-2

Client Sample ID: HSP-SP1-081618
Date Collected: 08/16/18 11:00
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-3
Matrix: Solid
Percent Solids: 96.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
2-Methylnaphthalene	**12**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Acenaphthylene	**27**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Acenaphthene	ND		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Fluorene	**11**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Phenanthrene	**91**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Anthracene	**35**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Fluoranthene	**190**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Pyrene	**220**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Benzo[a]anthracene	**110**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Chrysene	**130**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Benzo[b]fluoranthene	**150**	**F1 F2**	10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Benzo[k]fluoranthene	**65**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Benzo[a]pyrene	**130**	**F1**	10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Indeno[1,2,3-cd]pyrene	**76**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Dibenz(a,h)anthracene	**23**		10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1
Benzo[g,h,i]perylene	**100**	**F1**	10		ug/Kg	☼	08/21/18 09:10	08/21/18 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*71*		*23 - 120*	*08/21/18 09:10*	*08/21/18 12:45*	*1*
2-Fluorobiphenyl (Surr)	*75*		*38 - 123*	*08/21/18 09:10*	*08/21/18 12:45*	*1*
p-Terphenyl-d14	*87*		*68 - 136*	*08/21/18 09:10*	*08/21/18 12:45*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	08/21/18 15:43	08/22/18 09:40	1
Diesel Range Organics (DRO) (C10-C25)	ND		52		mg/Kg	☼	08/21/18 15:43	08/22/18 09:40	1
Residual Range Organics (RRO) (C25-C36)	**260**		100		mg/Kg	☼	08/21/18 15:43	08/22/18 09:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*08/21/18 15:43*	*08/22/18 09:40*	*1*
n-Triacontane-d62	*105*		*50 - 150*	*08/21/18 15:43*	*08/22/18 09:40*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**13**		1.9		mg/Kg	☼	08/20/18 13:40	08/21/18 14:58	2
Barium	**91**		1.9		mg/Kg	☼	08/20/18 13:40	08/21/18 14:58	2
Cadmium	ND		1.5		mg/Kg	☼	08/20/18 13:40	08/21/18 14:58	2
Chromium	**12**		1.9		mg/Kg	☼	08/20/18 13:40	08/21/18 14:58	2
Lead	**290**		4.6		mg/Kg	☼	08/20/18 13:40	08/21/18 14:58	2
Selenium	ND		7.6		mg/Kg	☼	08/20/18 13:40	08/21/18 14:58	2
Silver	ND		1.9		mg/Kg	☼	08/20/18 13:40	08/21/18 14:58	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**140**		42		ug/Kg	☼	08/21/18 08:53	08/21/18 15:02	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-18416/1-A
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
2-Methylnaphthalene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
1-Methylnaphthalene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Acenaphthylene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Acenaphthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Fluorene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Phenanthrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Anthracene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Fluoranthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Pyrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[a]anthracene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Chrysene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[b]fluoranthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[k]fluoranthene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[a]pyrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		08/21/18 09:10	08/21/18 11:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*74*		*23 - 120*	*08/21/18 09:10*	*08/21/18 11:05*	*1*
2-Fluorobiphenyl (Surr)	*77*		*38 - 123*	*08/21/18 09:10*	*08/21/18 11:05*	*1*
p-Terphenyl-d14	*104*		*68 - 136*	*08/21/18 09:10*	*08/21/18 11:05*	*1*

Lab Sample ID: LCS 590-18416/2-A
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	141		ug/Kg		53	41 - 121
2-Methylnaphthalene	267	184		ug/Kg		69	39 - 132
1-Methylnaphthalene	267	191		ug/Kg		72	46 - 131
Acenaphthylene	267	185		ug/Kg		69	56 - 123
Acenaphthene	267	177		ug/Kg		67	43 - 140
Fluorene	267	227		ug/Kg		85	54 - 131
Phenanthrene	267	205		ug/Kg		77	55 - 141
Anthracene	267	224		ug/Kg		84	60 - 129
Fluoranthene	267	224		ug/Kg		84	63 - 141
Pyrene	267	235		ug/Kg		88	62 - 139
Benzo[a]anthracene	267	232		ug/Kg		87	61 - 136
Chrysene	267	234		ug/Kg		88	57 - 144
Benzo[b]fluoranthene	267	233		ug/Kg		87	66 - 141
Benzo[k]fluoranthene	267	217		ug/Kg		81	63 - 150
Benzo[a]pyrene	267	221		ug/Kg		83	60 - 133
Indeno[1,2,3-cd]pyrene	267	236		ug/Kg		89	55 - 142
Dibenz(a,h)anthracene	267	237		ug/Kg		89	60 - 150
Benzo[g,h,i]perylene	267	237		ug/Kg		89	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-18416/2-A
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18416

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	*76*		*23 - 120*
2-Fluorobiphenyl (Surr)	*79*		*38 - 123*
p-Terphenyl-d14	*91*		*68 - 136*

Lab Sample ID: 590-9164-3 MS
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: HSP-SP1-081618
Prep Type: Total/NA
Prep Batch: 18416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		267	177		ug/Kg	☼	63	41 - 121
2-Methylnaphthalene	12		267	207		ug/Kg	☼	73	39 - 132
1-Methylnaphthalene	ND		267	227		ug/Kg	☼	82	46 - 131
Acenaphthylene	27		267	207		ug/Kg	☼	67	56 - 123
Acenaphthene	ND		267	184		ug/Kg	☼	65	43 - 140
Fluorene	11		267	240		ug/Kg	☼	86	54 - 131
Phenanthrene	91		267	330		ug/Kg	☼	90	55 - 141
Anthracene	35		267	289		ug/Kg	☼	95	60 - 129
Fluoranthene	190		267	466		ug/Kg	☼	104	63 - 141
Pyrene	220		267	521		ug/Kg	☼	114	62 - 139
Benzo[a]anthracene	110		267	405		ug/Kg	☼	111	61 - 136
Chrysene	130		267	477		ug/Kg	☼	131	57 - 144
Benzo[b]fluoranthene	150	F1 F2	267	611	F1	ug/Kg	☼	171	66 - 141
Benzo[k]fluoranthene	65		267	379		ug/Kg	☼	118	63 - 150
Benzo[a]pyrene	130	F1	267	488	F1	ug/Kg	☼	134	60 - 133
Indeno[1,2,3-cd]pyrene	76		267	301		ug/Kg	☼	85	55 - 142
Dibenz(a,h)anthracene	23		267	223		ug/Kg	☼	75	60 - 150
Benzo[g,h,i]perylene	100	F1	267	301		ug/Kg	☼	75	58 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Nitrobenzene-d5	*66*		*23 - 120*
2-Fluorobiphenyl (Surr)	*69*		*38 - 123*
p-Terphenyl-d14	*86*		*68 - 136*

Lab Sample ID: 590-9164-3 MSD
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: HSP-SP1-081618
Prep Type: Total/NA
Prep Batch: 18416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		267	180		ug/Kg	☼	64	41 - 121	2	35
2-Methylnaphthalene	12		267	209		ug/Kg	☼	74	39 - 132	1	35
1-Methylnaphthalene	ND		267	226		ug/Kg	☼	81	46 - 131	1	35
Acenaphthylene	27		267	203		ug/Kg	☼	66	56 - 123	2	35
Acenaphthene	ND		267	186		ug/Kg	☼	66	43 - 140	1	35
Fluorene	11		267	242		ug/Kg	☼	86	54 - 131	1	35
Phenanthrene	91		267	291		ug/Kg	☼	75	55 - 141	13	35
Anthracene	35		267	261		ug/Kg	☼	84	60 - 129	10	35
Fluoranthene	190		267	400		ug/Kg	☼	79	63 - 141	15	35
Pyrene	220		267	470		ug/Kg	☼	94	62 - 139	10	35

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 590-9164-3 MSD
Matrix: Solid
Analysis Batch: 18417

Client Sample ID: HSP-SP1-081618
Prep Type: Total/NA
Prep Batch: 18416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	110		267	335		ug/Kg	☼	84	61 - 136	19	35
Chrysene	130		267	356		ug/Kg	☼	85	57 - 144	29	35
Benzo[b]fluoranthene	150	F1 F2	267	360	F2	ug/Kg	☼	77	66 - 141	52	35
Benzo[k]fluoranthene	65		267	298		ug/Kg	☼	87	63 - 150	24	35
Benzo[a]pyrene	130	F1	267	343		ug/Kg	☼	80	60 - 133	35	35
Indeno[1,2,3-cd]pyrene	76		267	222		ug/Kg	☼	55	55 - 142	30	35
Dibenz(a,h)anthracene	23		267	195		ug/Kg	☼	64	60 - 150	14	35
Benzo[g,h,i]perylene	100	F1	267	228	F1	ug/Kg	☼	48	58 - 147	28	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Nitrobenzene-d5	*68*		*23 - 120*
2-Fluorobiphenyl (Surr)	*73*		*38 - 123*
p-Terphenyl-d14	*92*		*68 - 136*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 590-18433/1-A
Matrix: Solid
Analysis Batch: 18434

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18433

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg		08/21/18 15:43	08/22/18 09:21	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg		08/21/18 15:43	08/22/18 09:21	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg		08/21/18 15:43	08/22/18 09:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*08/21/18 15:43*	*08/22/18 09:21*	*1*
n-Triacontane-d62	*75*		*50 - 150*	*08/21/18 15:43*	*08/22/18 09:21*	*1*

Lab Sample ID: 590-9164-3 DU
Matrix: Solid
Analysis Batch: 18434

Client Sample ID: HSP-SP1-081618
Prep Type: Total/NA
Prep Batch: 18433

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND			ND		mg/Kg	☼			NC	25
Diesel Range Organics (DRO) (C10-C25)	ND			ND		mg/Kg	☼			NC	25
Residual Range Organics (RRO) (C25-C36)	260			269		mg/Kg	☼			2	25

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*90*		*50 - 150*
n-Triacontane-d62	*106*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-18401/2-A
Matrix: Solid
Analysis Batch: 18441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18401

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Barium	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Cadmium	ND		1.0		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Chromium	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Lead	ND		3.0		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Selenium	ND		5.0		mg/Kg		08/20/18 13:40	08/21/18 14:04	1
Silver	ND		1.3		mg/Kg		08/20/18 13:40	08/21/18 14:04	1

Lab Sample ID: LCS 590-18401/1-A
Matrix: Solid
Analysis Batch: 18441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18401

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	49.7		mg/Kg		99	80 - 120
Barium	50.0	52.9		mg/Kg		106	80 - 120
Cadmium	50.0	51.9		mg/Kg		104	80 - 120
Chromium	50.0	51.6		mg/Kg		103	80 - 120
Lead	50.0	52.6		mg/Kg		105	80 - 120
Selenium	50.0	49.0		mg/Kg		98	80 - 120
Silver	50.0	51.5		mg/Kg		103	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-18411/9-A
Matrix: Solid
Analysis Batch: 18435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18411

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		08/21/18 08:53	08/21/18 14:48	1

Lab Sample ID: LCS 590-18411/8-A
Matrix: Solid
Analysis Batch: 18435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18411

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	209		ug/Kg		105	80 - 120

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-2

Client Sample ID: HSP-SP1-081618

Date Collected: 08/16/18 11:00
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18410	08/21/18 08:39	CWD	TAL SPK

Client Sample ID: HSP-SP1-081618

Date Collected: 08/16/18 11:00
Date Received: 08/17/18 16:40

Lab Sample ID: 590-9164-3

Matrix: Solid
Percent Solids: 96.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.33 g	2 mL	18416	08/21/18 09:10	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18417	08/21/18 12:45	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.03 g	20 mL	18433	08/21/18 15:43	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			18434	08/22/18 09:40	NMI	TAL SPK
Total/NA	Prep	3050B			1.36 g	50 mL	18401	08/20/18 13:40	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18441	08/21/18 14:58	JSP	TAL SPK
Total/NA	Prep	7471B			0.61 g	50 mL	18411	08/21/18 08:53	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18435	08/21/18 15:02	JSP	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-2

Laboratory: TestAmerica Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-025	12-07-18
Oregon	NELAP	10	4137	12-07-18
Washington	State Program	10	C569	01-06-19

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9164-2

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-HCID	Northwest - Hydrocarbon Identification (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK
NWTPH-HCID	Solvent Extraction	NWTPH	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: JML	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-3852-1237.1
Client Contact: ~~Dave Lauder~~ JR Swyglski	Phone: 406-239-7810	E-Mail: randee.arrington@testamericainc.com		Page: Page 1 of 1
Company: GeoEngineers Inc				Job #:

Address: 523 East Second Ave	Due Date Requested:	Analysis Requested
City: Spokane	TAT Requested (days):	
State, Zip: WA, 99202		
Phone: 509-209-2830(Tel)	PO #: Purchase Order not required	
Email: dlauder@geoengineers.com	WO #:	
Project Name: Riverfront Park (0110-148-06)	Project #: 59000877	
Site:	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Gx_MS -	6010C, 7471B, 8270D_SIM, NWTPH_Dx, NWTPH_HCID	Dx - NWTPH HCID	VOCs 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				F	N				
HSP-TP2-081618	8/16/18	1030	G	Solid			X	X	X	X	3	
HSP-TP2-Dup-081618	8/16/18	0800	G	Solid			X	X	X	X	3	
HSP-SP1-081618	8/16/18	1100	C	Solid				X	X		2	72 hr TAT on this sample
Trip Blank	8/16/18		G	W						X		

590-9164 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Josh Lu	8/16/18 1500	GEI	Justin Orr	8/16/18 1500	GEI
Justin Orr	8/16/18 1635	GEI	Sheila Kratz	8/16/18 1640	TAS

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 6.0 °C IR004

Ver: 08/04/2016

8/22/2018

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-9164-2

Login Number: 9164
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

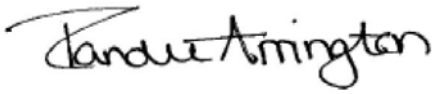
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-9193-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski



Authorized for release by:
8/30/2018 11:10:55 AM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Job ID: 590-9193-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 8/21/2018 4:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.0º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D SIM: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: USPAR-1 (4.5-5) (590-9193-1) and USPAR-4 (5.5-6) (590-9193-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to oil overlap in the following: USPAR-1 (4.5-5) (590-9193-1), USPAR-2 (5.5-6) (590-9193-2), USPAR-3 (5-5.5) (590-9193-3), USPAR-4 (5.5-6) (590-9193-4), USPAR-5 (5-5.5) (590-9193-5), USPAR-6 (5-5.5) (590-9193-6) and DUP (590-9193-7), (590-9193-C-2-E DU) and (590-9193-C-3-E DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 6010C: The low level continuing calibration verification (CCVL) associated with batch 590-18579 recovered above the upper control limit for Selenium. The samples associated with this CCV were either >10x or non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-9193-1	USPAR-1 (4.5-5)	Solid	08/20/18 11:30	08/21/18 16:30
590-9193-2	USPAR-2 (5.5-6)	Solid	08/20/18 11:58	08/21/18 16:30
590-9193-3	USPAR-3 (5-5.5)	Solid	08/20/18 12:05	08/21/18 16:30
590-9193-4	USPAR-4 (5.5-6)	Solid	08/20/18 12:12	08/21/18 16:30
590-9193-5	USPAR-5 (5-5.5)	Solid	08/20/18 12:17	08/21/18 16:30
590-9193-6	USPAR-6 (5-5.5)	Solid	08/20/18 12:22	08/21/18 16:30
590-9193-7	DUP	Solid	08/20/18 12:00	08/21/18 16:30
590-9193-8	TB	Solid	08/20/18 00:00	08/21/18 16:30

Definitions/Glossary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: USPAR-1 (4.5-5)
Date Collected: 08/20/18 11:30
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-1
Matrix: Solid
Percent Solids: 90.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,1,1-Trichloroethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,1,2,2-Tetrachloroethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,1,2-Trichloroethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,1,2-Trichlorotrifluoroethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,1-Dichloroethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,1-Dichloroethene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,1-Dichloropropene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2,3-Trichlorobenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2,3-Trichloropropane	ND		0.19		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2,4-Trichlorobenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2,4-Trimethylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2-Dibromo-3-Chloropropane	ND		0.48		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2-Dibromoethane (EDB)	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2-Dichlorobenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2-Dichloroethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,2-Dichloropropane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,3,5-Trimethylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,3-Dichlorobenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,3-Dichloropropane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
1,4-Dichlorobenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
2,2-Dichloropropane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
2-Butanone (MEK)	ND		0.96		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
2-Chlorotoluene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
2-Hexanone	ND		0.96		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
4-Chlorotoluene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
4-Methyl-2-pentanone (MIBK)	ND		0.96		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Acetone	ND		2.9		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Benzene	ND		0.019		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Bromobenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Bromochloromethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Bromodichloromethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Bromoform	ND		0.19		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Bromomethane	ND		0.48		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Carbon disulfide	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Carbon tetrachloride	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Chlorobenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Chloroethane	ND		0.19		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Chloroform	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Chloromethane	ND		0.48		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
cis-1,2-Dichloroethene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
cis-1,3-Dichloropropene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Dibromochloromethane	ND		0.19		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Dibromomethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Dichlorodifluoromethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Dichlorofluoromethane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Ethylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Hexachlorobutadiene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Hexane	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1

Client Sample ID: USPAR-1 (4.5-5)
Date Collected: 08/20/18 11:30
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-1
Matrix: Solid
Percent Solids: 90.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
m,p-Xylene	ND		0.38		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Methyl tert-butyl ether	ND		0.048		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Methylene Chloride	ND		0.34		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Naphthalene	ND		0.19		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
n-Butylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
N-Propylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
o-Xylene	ND		0.19		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
p-Isopropyltoluene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
sec-Butylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Styrene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
tert-Butylbenzene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Tetrachloroethene	ND		0.038		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Toluene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
trans-1,2-Dichloroethene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
trans-1,3-Dichloropropene	ND		0.096		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Trichloroethene	ND		0.024		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Trichlorofluoromethane	ND		0.19		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Vinyl chloride	ND		0.058		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1
Xylenes, Total	ND		0.58		mg/Kg	☼	08/21/18 13:58	08/22/18 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 120*	*08/21/18 13:58*	*08/22/18 02:09*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 122*	*08/21/18 13:58*	*08/22/18 02:09*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*08/21/18 13:58*	*08/22/18 02:09*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*08/21/18 13:58*	*08/22/18 02:09*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.8		mg/Kg	☼	08/21/18 13:58	08/22/18 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41.5 - 162*	*08/21/18 13:58*	*08/22/18 21:40*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Acenaphthylene	**14**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Acenaphthene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Fluorene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Phenanthrene	**42**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Anthracene	**16**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Fluoranthene	**75**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Pyrene	**140**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Benzo[a]anthracene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Chrysene	**41**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 18:55	1
Benzo[b]fluoranthene	ND		100		ug/Kg	☼	08/23/18 08:42	08/25/18 01:58	10
Benzo[k]fluoranthene	ND		100		ug/Kg	☼	08/23/18 08:42	08/25/18 01:58	10

Client Sample ID: USPAR-1 (4.5-5)

Date Collected: 08/20/18 11:30
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-1
Matrix: Solid
Percent Solids: 90.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		100		ug/Kg	☼	08/23/18 08:42	08/25/18 01:58	10
Indeno[1,2,3-cd]pyrene	ND		100		ug/Kg	☼	08/23/18 08:42	08/25/18 01:58	10
Dibenz(a,h)anthracene	ND		100		ug/Kg	☼	08/23/18 08:42	08/25/18 01:58	10
Benzo[g,h,i]perylene	ND		100		ug/Kg	☼	08/23/18 08:42	08/25/18 01:58	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*59*		*23 - 120*	*08/23/18 08:42*	*08/23/18 18:55*	*1*
Nitrobenzene-d5	*59*		*23 - 120*	*08/23/18 08:42*	*08/25/18 01:58*	*10*
2-Fluorobiphenyl (Surr)	*88*		*38 - 123*	*08/23/18 08:42*	*08/23/18 18:55*	*1*
2-Fluorobiphenyl (Surr)	*86*		*38 - 123*	*08/23/18 08:42*	*08/25/18 01:58*	*10*
p-Terphenyl-d14	*136*		*68 - 136*	*08/23/18 08:42*	*08/23/18 18:55*	*1*
p-Terphenyl-d14	*99*		*68 - 136*	*08/23/18 08:42*	*08/25/18 01:58*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**3000**		220		mg/Kg	☼	08/28/18 13:03	08/29/18 10:44	20
Residual Range Organics (RRO) (C25-C36)	**20000**		550		mg/Kg	☼	08/28/18 13:03	08/29/18 10:44	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*08/28/18 13:03*	*08/29/18 10:44*	*20*
n-Triacontane-d62	*56*		*50 - 150*	*08/28/18 13:03*	*08/29/18 10:44*	*20*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.7**		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 14:45	2
Barium	**69**		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 14:45	2
Cadmium	ND		1.7		mg/Kg	☼	08/24/18 08:53	08/29/18 14:45	2
Chromium	**11**		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 14:45	2
Lead	**34**		5.1		mg/Kg	☼	08/24/18 08:53	08/29/18 14:45	2
Selenium	ND	^	8.5		mg/Kg	☼	08/24/18 08:53	08/29/18 14:45	2
Silver	ND		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 14:45	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**83**		19		ug/Kg	☼	08/27/18 09:28	08/27/18 14:58	1

Client Sample ID: USPAR-2 (5.5-6)

Date Collected: 08/20/18 11:58
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-2
Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,1,1-Trichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,1,2,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,1,2-Trichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,1,2-Trichlorotrifluoroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,1-Dichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,1-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: USPAR-2 (5.5-6)
Date Collected: 08/20/18 11:58
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-2
Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2,3-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2,3-Trichloropropane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2,4-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2,4-Trimethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2-Dibromo-3-Chloropropane	ND		0.57		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2-Dibromoethane (EDB)	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2-Dichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,2-Dichloropropane	ND		0.14		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,3,5-Trimethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,3-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,3-Dichloropropane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
1,4-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
2,2-Dichloropropane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
2-Butanone (MEK)	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
2-Chlorotoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
2-Hexanone	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
4-Chlorotoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
4-Methyl-2-pentanone (MIBK)	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Acetone	ND		3.4		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Benzene	ND		0.023		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Bromobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Bromochloromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Bromodichloromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Bromoform	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Bromomethane	ND		0.57		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Carbon disulfide	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Carbon tetrachloride	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Chlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Chloroethane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Chloroform	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Chloromethane	ND		0.57		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
cis-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
cis-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Dibromochloromethane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Dibromomethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Dichlorodifluoromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Dichlorofluoromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Ethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Hexachlorobutadiene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Hexane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Isopropylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
m,p-Xylene	ND		0.45		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Methyl tert-butyl ether	ND		0.057		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Methylene Chloride	ND		0.40		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Naphthalene	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
n-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
N-Propylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1

Client Sample ID: USPAR-2 (5.5-6)
Date Collected: 08/20/18 11:58
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-2
Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
p-Isopropyltoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
sec-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Styrene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
tert-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Tetrachloroethene	ND		0.045		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Toluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
trans-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
trans-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Trichloroethene	ND		0.028		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Trichlorofluoromethane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Vinyl chloride	ND		0.068		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1
Xylenes, Total	ND		0.68		mg/Kg	☼	08/21/18 13:58	08/22/18 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 120*	*08/21/18 13:58*	*08/22/18 02:30*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 122*	*08/21/18 13:58*	*08/22/18 02:30*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*	*08/21/18 13:58*	*08/22/18 02:30*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*08/21/18 13:58*	*08/22/18 02:30*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.7		mg/Kg	☼	08/21/18 13:58	08/22/18 22:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41.5 - 162*	*08/21/18 13:58*	*08/22/18 22:24*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
2-Methylnaphthalene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
1-Methylnaphthalene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Acenaphthylene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Acenaphthene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Fluorene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Phenanthrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Anthracene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Fluoranthene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Pyrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Benzo[a]anthracene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Chrysene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Benzo[b]fluoranthene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Benzo[k]fluoranthene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Benzo[a]pyrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Indeno[1,2,3-cd]pyrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Dibenz(a,h)anthracene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10
Benzo[g,h,i]perylene	ND		110		ug/Kg	☼	08/23/18 08:42	08/23/18 19:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*83*		*23 - 120*	*08/23/18 08:42*	*08/23/18 19:20*	*10*
2-Fluorobiphenyl (Surr)	*86*		*38 - 123*	*08/23/18 08:42*	*08/23/18 19:20*	*10*

Client Sample ID: USPAR-2 (5.5-6)

Date Collected: 08/20/18 11:58
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-2

Matrix: Solid
Percent Solids: 92.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl-d14	*103*		*68 - 136*	*08/23/18 08:42*	*08/23/18 19:20*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**610**		110		mg/Kg	☼	08/28/18 13:03	08/29/18 00:21	10
Residual Range Organics (RRO) (C25-C36)	**4700**		270		mg/Kg	☼	08/28/18 13:03	08/29/18 00:21	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*102*		*50 - 150*	*08/28/18 13:03*	*08/29/18 00:21*	*10*
n-Triacontane-d62	*91*		*50 - 150*	*08/28/18 13:03*	*08/29/18 00:21*	*10*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**13**		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 14:48	2
Barium	**72**		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 14:48	2
Cadmium	ND		1.6		mg/Kg	☼	08/24/18 08:53	08/29/18 14:48	2
Chromium	**9.3**		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 14:48	2
Lead	**9.6**		4.7		mg/Kg	☼	08/24/18 08:53	08/29/18 14:48	2
Selenium	ND	^	7.9		mg/Kg	☼	08/24/18 08:53	08/29/18 14:48	2
Silver	ND		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 14:48	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		41		ug/Kg	☼	08/27/18 09:28	08/27/18 15:00	1

Client Sample ID: USPAR-3 (5-5.5)

Date Collected: 08/20/18 12:05
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-3

Matrix: Solid
Percent Solids: 94.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,1,1-Trichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,1,2,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,1,2-Trichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,1,2-Trichlorotrifluoroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,1-Dichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,1-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,1-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2,3-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2,3-Trichloropropane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2,4-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2,4-Trimethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2-Dibromo-3-Chloropropane	ND		0.57		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2-Dibromoethane (EDB)	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2-Dichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,2-Dichloropropane	ND		0.14		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,3,5-Trimethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: USPAR-3 (5-5.5)
Date Collected: 08/20/18 12:05
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-3
Matrix: Solid
Percent Solids: 94.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,3-Dichloropropane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
1,4-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
2,2-Dichloropropane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
2-Butanone (MEK)	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
2-Chlorotoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
2-Hexanone	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
4-Chlorotoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
4-Methyl-2-pentanone (MIBK)	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Acetone	ND		3.4		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Benzene	ND		0.023		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Bromobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Bromochloromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Bromodichloromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Bromoform	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Bromomethane	ND		0.57		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Carbon disulfide	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Carbon tetrachloride	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Chlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Chloroethane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Chloroform	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Chloromethane	ND		0.57		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
cis-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
cis-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Dibromochloromethane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Dibromomethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Dichlorodifluoromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Dichlorofluoromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Ethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Hexachlorobutadiene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Hexane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Isopropylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
m,p-Xylene	ND		0.45		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Methyl tert-butyl ether	ND		0.057		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Methylene Chloride	ND		0.40		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Naphthalene	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
n-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
N-Propylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
o-Xylene	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
p-Isopropyltoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
sec-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Styrene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
tert-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Tetrachloroethene	ND		0.045		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Toluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
trans-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
trans-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Trichloroethene	ND		0.028		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Trichlorofluoromethane	ND		0.23		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1

Client Sample ID: USPAR-3 (5-5.5)
Date Collected: 08/20/18 12:05
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-3
Matrix: Solid
Percent Solids: 94.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.068		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1
Xylenes, Total	ND		0.68		mg/Kg	☼	08/21/18 13:58	08/22/18 02:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 120*	*08/21/18 13:58*	*08/22/18 02:51*	*1*
4-Bromofluorobenzene (Surr)	*97*		*76 - 122*	*08/21/18 13:58*	*08/22/18 02:51*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*	*08/21/18 13:58*	*08/22/18 02:51*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 02:51*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.7		mg/Kg	☼	08/21/18 13:58	08/22/18 22:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41.5 - 162*	*08/21/18 13:58*	*08/22/18 22:46*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Acenaphthylene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Acenaphthene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Fluorene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Phenanthrene	**18**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Anthracene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Fluoranthene	**40**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Pyrene	**41**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Benzo[a]anthracene	**21**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Chrysene	**23**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Benzo[b]fluoranthene	**31**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Benzo[k]fluoranthene	**11**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Benzo[a]pyrene	**24**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Indeno[1,2,3-cd]pyrene	**13**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1
Benzo[g,h,i]perylene	**18**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*57*		*23 - 120*	*08/23/18 08:42*	*08/23/18 19:45*	*1*
2-Fluorobiphenyl (Surr)	*73*		*38 - 123*	*08/23/18 08:42*	*08/23/18 19:45*	*1*
p-Terphenyl-d14	*86*		*68 - 136*	*08/23/18 08:42*	*08/23/18 19:45*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**36**		10		mg/Kg	☼	08/28/18 13:03	08/29/18 00:59	1
Residual Range Organics (RRO) (C25-C36)	**300**		26		mg/Kg	☼	08/28/18 13:03	08/29/18 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*109*		*50 - 150*	*08/28/18 13:03*	*08/29/18 00:59*	*1*
n-Triacontane-d62	*101*		*50 - 150*	*08/28/18 13:03*	*08/29/18 00:59*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**12**		2.2		mg/Kg	☼	08/24/18 08:53	08/29/18 15:02	2
Barium	**72**		2.2		mg/Kg	☼	08/24/18 08:53	08/29/18 15:02	2
Cadmium	ND		1.7		mg/Kg	☼	08/24/18 08:53	08/29/18 15:02	2
Chromium	**9.7**		2.2		mg/Kg	☼	08/24/18 08:53	08/29/18 15:02	2
Lead	**18**		5.2		mg/Kg	☼	08/24/18 08:53	08/29/18 15:02	2
Selenium	ND	^	8.6		mg/Kg	☼	08/24/18 08:53	08/29/18 15:02	2
Silver	ND		2.2		mg/Kg	☼	08/24/18 08:53	08/29/18 15:02	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**46**		34		ug/Kg	☼	08/27/18 09:28	08/27/18 15:03	1

Client Sample ID: USPAR-4 (5.5-6)

Date Collected: 08/20/18 12:12
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-4

Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,1,1-Trichloroethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,1,2,2-Tetrachloroethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,1,2-Trichloroethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,1,2-Trichlorotrifluoroethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,1-Dichloroethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,1-Dichloroethene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,1-Dichloropropene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2,3-Trichlorobenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2,3-Trichloropropane	ND		0.27		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2,4-Trichlorobenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2,4-Trimethylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2-Dibromo-3-Chloropropane	ND		0.67		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2-Dibromoethane (EDB)	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2-Dichlorobenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2-Dichloroethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,2-Dichloropropane	ND		0.16		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,3,5-Trimethylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,3-Dichlorobenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,3-Dichloropropane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
1,4-Dichlorobenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
2,2-Dichloropropane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
2-Butanone (MEK)	ND		1.3		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
2-Chlorotoluene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
2-Hexanone	ND		1.3		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
4-Chlorotoluene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
4-Methyl-2-pentanone (MIBK)	ND		1.3		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Acetone	ND		4.0		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Benzene	ND		0.027		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Bromobenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Bromochloromethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Bromodichloromethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Bromoform	ND		0.27		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Bromomethane	ND		0.67		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Carbon disulfide	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Carbon tetrachloride	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1

Client Sample ID: USPAR-4 (5.5-6)
Date Collected: 08/20/18 12:12
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-4
Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Chloroethane	ND		0.27		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Chloroform	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Chloromethane	ND		0.67		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
cis-1,2-Dichloroethene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
cis-1,3-Dichloropropene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Dibromochloromethane	ND		0.27		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Dibromomethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Dichlorodifluoromethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Dichlorofluoromethane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Ethylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Hexachlorobutadiene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Hexane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Isopropylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
m,p-Xylene	ND		0.54		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Methyl tert-butyl ether	ND		0.067		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Methylene Chloride	ND		0.47		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Naphthalene	ND		0.27		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
n-Butylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
N-Propylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
o-Xylene	ND		0.27		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
p-Isopropyltoluene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
sec-Butylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Styrene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
tert-Butylbenzene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Tetrachloroethene	ND		0.054		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Toluene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
trans-1,2-Dichloroethene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
trans-1,3-Dichloropropene	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Trichloroethene	ND		0.034		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Trichlorofluoromethane	ND		0.27		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Vinyl chloride	ND		0.081		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1
Xylenes, Total	ND		0.81		mg/Kg	☼	08/21/18 13:58	08/22/18 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 120*	*08/21/18 13:58*	*08/22/18 03:12*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 122*	*08/21/18 13:58*	*08/22/18 03:12*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 03:12*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 03:12*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.7		mg/Kg	☼	08/21/18 13:58	08/22/18 23:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*41.5 - 162*	*08/21/18 13:58*	*08/22/18 23:08*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1

Client Sample ID: USPAR-4 (5.5-6)
Date Collected: 08/20/18 12:12
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-4
Matrix: Solid
Percent Solids: 92.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Acenaphthylene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Acenaphthene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Fluorene	**13**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Phenanthrene	**98**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Anthracene	**27**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Fluoranthene	**99**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Pyrene	**120**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Benzo[a]anthracene	**47**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Chrysene	**53**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:10	1
Benzo[b]fluoranthene	ND		110		ug/Kg	☼	08/23/18 08:42	08/25/18 02:23	10
Benzo[k]fluoranthene	ND		110		ug/Kg	☼	08/23/18 08:42	08/25/18 02:23	10
Benzo[a]pyrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/25/18 02:23	10
Indeno[1,2,3-cd]pyrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/25/18 02:23	10
Dibenz(a,h)anthracene	ND		110		ug/Kg	☼	08/23/18 08:42	08/25/18 02:23	10
Benzo[g,h,i]perylene	ND		110		ug/Kg	☼	08/23/18 08:42	08/25/18 02:23	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*67*		*23 - 120*	*08/23/18 08:42*	*08/23/18 20:10*	*1*
Nitrobenzene-d5	*69*		*23 - 120*	*08/23/18 08:42*	*08/25/18 02:23*	*10*
2-Fluorobiphenyl (Surr)	*90*		*38 - 123*	*08/23/18 08:42*	*08/23/18 20:10*	*1*
2-Fluorobiphenyl (Surr)	*79*		*38 - 123*	*08/23/18 08:42*	*08/25/18 02:23*	*10*
p-Terphenyl-d14	*121*		*68 - 136*	*08/23/18 08:42*	*08/23/18 20:10*	*1*
p-Terphenyl-d14	*92*		*68 - 136*	*08/23/18 08:42*	*08/25/18 02:23*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**1500**		210		mg/Kg	☼	08/28/18 13:03	08/29/18 11:04	20
Residual Range Organics (RRO) (C25-C36)	**12000**		530		mg/Kg	☼	08/28/18 13:03	08/29/18 11:04	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*105*		*50 - 150*	*08/28/18 13:03*	*08/29/18 11:04*	*20*
n-Triacontane-d62	*56*		*50 - 150*	*08/28/18 13:03*	*08/29/18 11:04*	*20*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**13**		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:05	2
Barium	**71**		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:05	2
Cadmium	ND		1.6		mg/Kg	☼	08/24/18 08:53	08/29/18 15:05	2
Chromium	**11**		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:05	2
Lead	**24**		4.8		mg/Kg	☼	08/24/18 08:53	08/29/18 15:05	2
Selenium	ND	^	8.1		mg/Kg	☼	08/24/18 08:53	08/29/18 15:05	2
Silver	ND		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:05	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**46**		25		ug/Kg	☼	08/27/18 09:28	08/27/18 15:10	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: USPAR-5 (5-5.5)
Date Collected: 08/20/18 12:17
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-5
Matrix: Solid
Percent Solids: 87.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,1,1-Trichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,1,2,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,1,2-Trichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,1,2-Trichlorotrifluoroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,1-Dichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,1-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,1-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2,3-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2,3-Trichloropropane	ND		0.22		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2,4-Trichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2,4-Trimethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2-Dibromo-3-Chloropropane	ND		0.54		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2-Dibromoethane (EDB)	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2-Dichloroethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,2-Dichloropropane	ND		0.13		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,3,5-Trimethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,3-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,3-Dichloropropane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
1,4-Dichlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
2,2-Dichloropropane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
2-Butanone (MEK)	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
2-Chlorotoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
2-Hexanone	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
4-Chlorotoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
4-Methyl-2-pentanone (MIBK)	ND		1.1		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Acetone	ND		3.3		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Benzene	ND		0.022		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Bromobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Bromochloromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Bromodichloromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Bromoform	ND		0.22		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Bromomethane	ND		0.54		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Carbon disulfide	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Carbon tetrachloride	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Chlorobenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Chloroethane	ND		0.22		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Chloroform	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Chloromethane	ND		0.54		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
cis-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
cis-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Dibromochloromethane	ND		0.22		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Dibromomethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Dichlorodifluoromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Dichlorofluoromethane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Ethylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Hexachlorobutadiene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Hexane	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1

Client Sample ID: USPAR-5 (5-5.5)
Date Collected: 08/20/18 12:17
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-5
Matrix: Solid
Percent Solids: 87.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
m,p-Xylene	ND		0.43		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Methyl tert-butyl ether	ND		0.054		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Methylene Chloride	ND		0.38		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Naphthalene	ND		0.22		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
n-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
N-Propylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
o-Xylene	ND		0.22		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
p-Isopropyltoluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
sec-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Styrene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
tert-Butylbenzene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Tetrachloroethene	ND		0.043		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Toluene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
trans-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
trans-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Trichloroethene	ND		0.027		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Trichlorofluoromethane	ND		0.22		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Vinyl chloride	ND		0.065		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1
Xylenes, Total	ND		0.65		mg/Kg	☼	08/21/18 13:58	08/22/18 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 120*	*08/21/18 13:58*	*08/22/18 03:33*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 122*	*08/21/18 13:58*	*08/22/18 03:33*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 03:33*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*08/21/18 13:58*	*08/22/18 03:33*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.4		mg/Kg	☼	08/21/18 13:58	08/22/18 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41.5 - 162*	*08/21/18 13:58*	*08/22/18 23:30*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Acenaphthylene	**23**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Acenaphthene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Fluorene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Phenanthrene	**29**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Anthracene	**15**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Fluoranthene	**98**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Pyrene	**120**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Benzo[a]anthracene	**64**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Chrysene	**75**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Benzo[b]fluoranthene	**110**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Benzo[k]fluoranthene	**41**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1

Client Sample ID: USPAR-5 (5-5.5)

Date Collected: 08/20/18 12:17
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-5

Matrix: Solid
Percent Solids: 87.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	72		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Indeno[1,2,3-cd]pyrene	43		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Dibenz(a,h)anthracene	13		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1
Benzo[g,h,i]perylene	56		11		ug/Kg	☼	08/23/18 08:42	08/23/18 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*58*		*23 - 120*	*08/23/18 08:42*	*08/23/18 20:35*	*1*
2-Fluorobiphenyl (Surr)	*86*		*38 - 123*	*08/23/18 08:42*	*08/23/18 20:35*	*1*
p-Terphenyl-d14	*112*		*68 - 136*	*08/23/18 08:42*	*08/23/18 20:35*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	770		110		mg/Kg	☼	08/28/18 13:03	08/29/18 11:23	10
Residual Range Organics (RRO) (C25-C36)	4000		280		mg/Kg	☼	08/28/18 13:03	08/29/18 11:23	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*08/28/18 13:03*	*08/29/18 11:23*	*10*
n-Triacontane-d62	*57*		*50 - 150*	*08/28/18 13:03*	*08/29/18 11:23*	*10*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.6		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:09	2
Barium	93		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:09	2
Cadmium	ND		1.6		mg/Kg	☼	08/24/18 08:53	08/29/18 15:09	2
Chromium	12		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:09	2
Lead	36		4.8		mg/Kg	☼	08/24/18 08:53	08/29/18 15:09	2
Selenium	ND	^	8.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:09	2
Silver	ND		2.0		mg/Kg	☼	08/24/18 08:53	08/29/18 15:09	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	60		35		ug/Kg	☼	08/27/18 09:28	08/27/18 15:12	1

Client Sample ID: USPAR-6 (5-5.5)

Date Collected: 08/20/18 12:22
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-6

Matrix: Solid
Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,1,1-Trichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,1,2,2-Tetrachloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,1,2-Trichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,1,2-Trichlorotrifluoroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,1-Dichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,1-Dichloroethene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,1-Dichloropropene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2,3-Trichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2,3-Trichloropropane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: USPAR-6 (5-5.5)
Date Collected: 08/20/18 12:22
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-6
Matrix: Solid
Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2,4-Trimethylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2-Dibromo-3-Chloropropane	ND		0.60		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2-Dibromoethane (EDB)	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2-Dichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2-Dichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,2-Dichloropropane	ND		0.14		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,3,5-Trimethylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,3-Dichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,3-Dichloropropane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
1,4-Dichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
2,2-Dichloropropane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
2-Butanone (MEK)	ND		1.2		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
2-Chlorotoluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
2-Hexanone	ND		1.2		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
4-Chlorotoluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
4-Methyl-2-pentanone (MIBK)	ND		1.2		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Acetone	ND		3.6		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Benzene	ND		0.024		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Bromobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Bromochloromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Bromodichloromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Bromoform	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Bromomethane	ND		0.60		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Carbon disulfide	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Carbon tetrachloride	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Chlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Chloroethane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Chloroform	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Chloromethane	ND		0.60		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
cis-1,2-Dichloroethene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
cis-1,3-Dichloropropene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Dibromochloromethane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Dibromomethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Dichlorodifluoromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Dichlorofluoromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Ethylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Hexachlorobutadiene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Hexane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Isopropylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
m,p-Xylene	ND		0.48		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Methyl tert-butyl ether	ND		0.060		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Methylene Chloride	ND		0.42		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Naphthalene	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
n-Butylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
N-Propylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
o-Xylene	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
p-Isopropyltoluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
sec-Butylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1

Client Sample ID: USPAR-6 (5-5.5)
Date Collected: 08/20/18 12:22
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-6
Matrix: Solid
Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
tert-Butylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Tetrachloroethene	ND		0.048		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Toluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
trans-1,2-Dichloroethene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
trans-1,3-Dichloropropene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Trichloroethene	ND		0.030		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Trichlorofluoromethane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Vinyl chloride	ND		0.072		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1
Xylenes, Total	ND		0.72		mg/Kg	☼	08/21/18 13:58	08/22/18 03:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 120*	*08/21/18 13:58*	*08/22/18 03:54*	*1*
4-Bromofluorobenzene (Surr)	*94*		*76 - 122*	*08/21/18 13:58*	*08/22/18 03:54*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 03:54*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 03:54*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.0		mg/Kg	☼	08/21/18 13:58	08/22/18 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*41.5 - 162*	*08/21/18 13:58*	*08/22/18 23:52*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Acenaphthylene	**20**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Acenaphthene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Fluorene	ND		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Phenanthrene	**54**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Anthracene	**19**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Fluoranthene	**120**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Pyrene	**140**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Benzo[a]anthracene	**71**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Chrysene	**84**		10		ug/Kg	☼	08/23/18 08:42	08/23/18 21:00	1
Benzo[b]fluoranthene	**110**		100		ug/Kg	☼	08/23/18 08:42	08/28/18 02:20	10
Benzo[k]fluoranthene	ND		100		ug/Kg	☼	08/23/18 08:42	08/28/18 02:20	10
Benzo[a]pyrene	ND		100		ug/Kg	☼	08/23/18 08:42	08/28/18 02:20	10
Indeno[1,2,3-cd]pyrene	ND		100		ug/Kg	☼	08/23/18 08:42	08/28/18 02:20	10
Dibenz(a,h)anthracene	ND		100		ug/Kg	☼	08/23/18 08:42	08/28/18 02:20	10
Benzo[g,h,i]perylene	**100**		100		ug/Kg	☼	08/23/18 08:42	08/28/18 02:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*56*		*23 - 120*	*08/23/18 08:42*	*08/23/18 21:00*	*1*
Nitrobenzene-d5	*64*		*23 - 120*	*08/23/18 08:42*	*08/28/18 02:20*	*10*
2-Fluorobiphenyl (Surr)	*77*		*38 - 123*	*08/23/18 08:42*	*08/23/18 21:00*	*1*
2-Fluorobiphenyl (Surr)	*80*		*38 - 123*	*08/23/18 08:42*	*08/28/18 02:20*	*10*
p-Terphenyl-d14	*108*		*68 - 136*	*08/23/18 08:42*	*08/23/18 21:00*	*1*

Client Sample ID: USPAR-6 (5-5.5)

Date Collected: 08/20/18 12:22
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-6
Matrix: Solid
Percent Solids: 91.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl-d14	*91*		*68 - 136*	*08/23/18 08:42*	*08/28/18 02:20*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**760**		110		mg/Kg	☼	08/28/18 13:03	08/29/18 11:43	10
Residual Range Organics (RRO) (C25-C36)	**4300**		270		mg/Kg	☼	08/28/18 13:03	08/29/18 11:43	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*103*		*50 - 150*	*08/28/18 13:03*	*08/29/18 11:43*	*10*
n-Triacontane-d62	*66*		*50 - 150*	*08/28/18 13:03*	*08/29/18 11:43*	*10*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**10**		2.3		mg/Kg	☼	08/24/18 08:53	08/29/18 15:13	2
Barium	**77**		2.3		mg/Kg	☼	08/24/18 08:53	08/29/18 15:13	2
Cadmium	ND		1.8		mg/Kg	☼	08/24/18 08:53	08/29/18 15:13	2
Chromium	**15**		2.3		mg/Kg	☼	08/24/18 08:53	08/29/18 15:13	2
Lead	**25**		5.5		mg/Kg	☼	08/24/18 08:53	08/29/18 15:13	2
Selenium	ND	^	9.2		mg/Kg	☼	08/24/18 08:53	08/29/18 15:13	2
Silver	ND		2.3		mg/Kg	☼	08/24/18 08:53	08/29/18 15:13	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**75**		31		ug/Kg	☼	08/27/18 09:28	08/27/18 15:14	1

Client Sample ID: DUP

Date Collected: 08/20/18 12:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-7
Matrix: Solid
Percent Solids: 91.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,1,1-Trichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,1,2,2-Tetrachloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,1,2-Trichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,1,2-Trichlorotrifluoroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,1-Dichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,1-Dichloroethene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,1-Dichloropropene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2,3-Trichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2,3-Trichloropropane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2,4-Trichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2,4-Trimethylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2-Dibromo-3-Chloropropane	ND		0.60		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2-Dibromoethane (EDB)	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2-Dichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2-Dichloroethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,2-Dichloropropane	ND		0.14		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,3,5-Trimethylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: DUP
Date Collected: 08/20/18 12:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-7
Matrix: Solid
Percent Solids: 91.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,3-Dichloropropane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
1,4-Dichlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
2,2-Dichloropropane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
2-Butanone (MEK)	ND		1.2		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
2-Chlorotoluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
2-Hexanone	ND		1.2		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
4-Chlorotoluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
4-Methyl-2-pentanone (MIBK)	ND		1.2		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Acetone	ND		3.6		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Benzene	ND		0.024		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Bromobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Bromochloromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Bromodichloromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Bromoform	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Bromomethane	ND		0.60		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Carbon disulfide	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Carbon tetrachloride	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Chlorobenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Chloroethane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Chloroform	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Chloromethane	ND		0.60		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
cis-1,2-Dichloroethene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
cis-1,3-Dichloropropene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Dibromochloromethane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Dibromomethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Dichlorodifluoromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Dichlorofluoromethane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Ethylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Hexachlorobutadiene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Hexane	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Isopropylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
m,p-Xylene	ND		0.48		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Methyl tert-butyl ether	ND		0.060		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Methylene Chloride	ND		0.42		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Naphthalene	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
n-Butylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
N-Propylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
o-Xylene	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
p-Isopropyltoluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
sec-Butylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Styrene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
tert-Butylbenzene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Tetrachloroethene	ND		0.048		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Toluene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
trans-1,2-Dichloroethene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
trans-1,3-Dichloropropene	ND		0.12		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Trichloroethene	ND		0.030		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Trichlorofluoromethane	ND		0.24		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1

Client Sample ID: DUP
Date Collected: 08/20/18 12:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-7
Matrix: Solid
Percent Solids: 91.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.072		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1
Xylenes, Total	ND		0.72		mg/Kg	☼	08/21/18 13:58	08/22/18 04:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 120*	*08/21/18 13:58*	*08/22/18 04:15*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 122*	*08/21/18 13:58*	*08/22/18 04:15*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 04:15*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 04:15*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.0		mg/Kg	☼	08/21/18 13:58	08/23/18 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*41.5 - 162*	*08/21/18 13:58*	*08/23/18 00:14*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Acenaphthylene	**17**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Acenaphthene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Fluorene	ND		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Phenanthrene	**47**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Anthracene	**18**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Fluoranthene	**99**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Pyrene	**110**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Benzo[a]anthracene	**64**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Chrysene	**75**		11		ug/Kg	☼	08/23/18 08:42	08/23/18 21:25	1
Benzo[b]fluoranthene	**120**		110		ug/Kg	☼	08/23/18 08:42	08/28/18 02:45	10
Benzo[k]fluoranthene	ND		110		ug/Kg	☼	08/23/18 08:42	08/28/18 02:45	10
Benzo[a]pyrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/28/18 02:45	10
Indeno[1,2,3-cd]pyrene	ND		110		ug/Kg	☼	08/23/18 08:42	08/28/18 02:45	10
Dibenz(a,h)anthracene	ND		110		ug/Kg	☼	08/23/18 08:42	08/28/18 02:45	10
Benzo[g,h,i]perylene	ND		110		ug/Kg	☼	08/23/18 08:42	08/28/18 02:45	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*37*		*23 - 120*	*08/23/18 08:42*	*08/23/18 21:25*	*1*
Nitrobenzene-d5	*54*		*23 - 120*	*08/23/18 08:42*	*08/28/18 02:45*	*10*
2-Fluorobiphenyl (Surr)	*71*		*38 - 123*	*08/23/18 08:42*	*08/23/18 21:25*	*1*
2-Fluorobiphenyl (Surr)	*78*		*38 - 123*	*08/23/18 08:42*	*08/28/18 02:45*	*10*
p-Terphenyl-d14	*120*		*68 - 136*	*08/23/18 08:42*	*08/23/18 21:25*	*1*
p-Terphenyl-d14	*97*		*68 - 136*	*08/23/18 08:42*	*08/28/18 02:45*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**560**		110		mg/Kg	☼	08/28/18 13:03	08/29/18 12:03	10
Residual Range Organics (RRO) (C25-C36)	**3800**		270		mg/Kg	☼	08/28/18 13:03	08/29/18 12:03	10

Client Sample ID: DUP

Date Collected: 08/20/18 12:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-7
Matrix: Solid
Percent Solids: 91.9

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*08/28/18 13:03*	*08/29/18 12:03*	*10*
n-Triacontane-d62	*59*		*50 - 150*	*08/28/18 13:03*	*08/29/18 12:03*	*10*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**9.3**		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 15:16	2
Barium	**63**		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 15:16	2
Cadmium	ND		1.7		mg/Kg	☼	08/24/18 08:53	08/29/18 15:16	2
Chromium	**9.5**		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 15:16	2
Lead	**17**		5.1		mg/Kg	☼	08/24/18 08:53	08/29/18 15:16	2
Selenium	ND	^	8.6		mg/Kg	☼	08/24/18 08:53	08/29/18 15:16	2
Silver	ND		2.1		mg/Kg	☼	08/24/18 08:53	08/29/18 15:16	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**49**		32		ug/Kg	☼	08/27/18 09:28	08/27/18 15:16	1

Client Sample ID: TB

Date Collected: 08/20/18 00:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-8
Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,1,1-Trichloroethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,1,2,2-Tetrachloroethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,1,2-Trichloroethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,1,2-Trichlorotrifluoroethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,1-Dichloroethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,1-Dichloroethene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,1-Dichloropropene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2,3-Trichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2,3-Trichloropropane	ND		0.21		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2,4-Trichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2-Dibromo-3-Chloropropane	ND		0.52		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2-Dibromoethane (EDB)	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2-Dichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2-Dichloroethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,2-Dichloropropane	ND		0.12		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,3,5-Trimethylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,3-Dichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,3-Dichloropropane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
1,4-Dichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
2,2-Dichloropropane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
2-Butanone (MEK)	ND		1.0		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
2-Chlorotoluene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
2-Hexanone	ND		1.0		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
4-Chlorotoluene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Acetone	ND		3.1		mg/Kg		08/21/18 13:58	08/22/18 04:36	1

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: TB
Date Collected: 08/20/18 00:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-8
Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Bromobenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Bromochloromethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Bromodichloromethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Bromoform	ND		0.21		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Bromomethane	ND		0.52		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Carbon disulfide	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Carbon tetrachloride	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Chlorobenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Chloroethane	ND		0.21		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Chloroform	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Chloromethane	ND		0.52		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
cis-1,2-Dichloroethene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
cis-1,3-Dichloropropene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Dibromochloromethane	ND		0.21		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Dibromomethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Dichlorodifluoromethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Dichlorofluoromethane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Ethylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Hexachlorobutadiene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Hexane	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Isopropylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
m,p-Xylene	ND		0.41		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Methyl tert-butyl ether	ND		0.052		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Methylene Chloride	ND		0.36		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Naphthalene	ND		0.21		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
n-Butylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
N-Propylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
o-Xylene	ND		0.21		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
p-Isopropyltoluene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
sec-Butylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Styrene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
tert-Butylbenzene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Tetrachloroethene	ND		0.041		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Toluene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
trans-1,2-Dichloroethene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
trans-1,3-Dichloropropene	ND		0.10		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Trichloroethene	ND		0.026		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Trichlorofluoromethane	ND		0.21		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Vinyl chloride	ND		0.062		mg/Kg		08/21/18 13:58	08/22/18 04:36	1
Xylenes, Total	ND		0.62		mg/Kg		08/21/18 13:58	08/22/18 04:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 120*	*08/21/18 13:58*	*08/22/18 04:36*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 122*	*08/21/18 13:58*	*08/22/18 04:36*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*08/21/18 13:58*	*08/22/18 04:36*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*08/21/18 13:58*	*08/22/18 04:36*	*1*

Client Sample Results

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: TB
Date Collected: 08/20/18 00:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-8
Matrix: Solid

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.2		mg/Kg		08/21/18 13:58	08/23/18 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41.5 - 162*	*08/21/18 13:58*	*08/23/18 00:36*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-18424/1-A
Matrix: Solid
Analysis Batch: 18429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18424

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,1,1-Trichloroethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,1,2,2-Tetrachloroethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,1,2-Trichloroethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,1,2-Trichlorotrifluoroethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,1-Dichloroethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,1-Dichloroethene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,1-Dichloropropene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2,3-Trichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2,3-Trichloropropane	ND		0.20		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2,4-Trichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2-Dibromo-3-Chloropropane	ND		0.50		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2-Dibromoethane (EDB)	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2-Dichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2-Dichloroethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,2-Dichloropropane	ND		0.12		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,3,5-Trimethylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,3-Dichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,3-Dichloropropane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
1,4-Dichlorobenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
2,2-Dichloropropane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
2-Butanone (MEK)	ND		1.0		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
2-Chlorotoluene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
2-Hexanone	ND		1.0		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
4-Chlorotoluene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Acetone	ND		3.0		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Benzene	ND		0.020		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Bromobenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Bromochloromethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Bromodichloromethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Bromoform	ND		0.20		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Bromomethane	ND		0.50		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Carbon disulfide	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Carbon tetrachloride	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Chlorobenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Chloroethane	ND		0.20		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Chloroform	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Chloromethane	ND		0.50		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
cis-1,2-Dichloroethene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
cis-1,3-Dichloropropene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Dibromochloromethane	ND		0.20		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Dibromomethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Dichlorodifluoromethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Dichlorofluoromethane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Ethylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Hexachlorobutadiene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 590-18424/1-A
Matrix: Solid
Analysis Batch: 18429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18424

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Isopropylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
m,p-Xylene	ND		0.40		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Methyl tert-butyl ether	ND		0.050		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Methylene Chloride	ND		0.35		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Naphthalene	ND		0.20		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
n-Butylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
N-Propylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
o-Xylene	ND		0.20		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
p-Isopropyltoluene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
sec-Butylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Styrene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
tert-Butylbenzene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Tetrachloroethene	ND		0.040		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Toluene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
trans-1,2-Dichloroethene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
trans-1,3-Dichloropropene	ND		0.10		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Trichloroethene	ND		0.025		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Trichlorofluoromethane	ND		0.20		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Vinyl chloride	ND		0.060		mg/Kg		08/21/18 13:45	08/22/18 01:06	1
Xylenes, Total	ND		0.60		mg/Kg		08/21/18 13:45	08/22/18 01:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 120*	*08/21/18 13:45*	*08/22/18 01:06*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 122*	*08/21/18 13:45*	*08/22/18 01:06*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*	*08/21/18 13:45*	*08/22/18 01:06*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*08/21/18 13:45*	*08/22/18 01:06*	*1*

Lab Sample ID: LCS 590-18424/2-A
Matrix: Solid
Analysis Batch: 18429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18424

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.500	0.430		mg/Kg		86	80 - 120
1,1,1-Trichloroethane	0.500	0.428		mg/Kg		86	74 - 138
1,1,2,2-Tetrachloroethane	0.500	0.391		mg/Kg		78	60 - 137
1,1,2-Trichloroethane	0.500	0.397		mg/Kg		79	66 - 125
1,1,2-Trichlorotrifluoroethane	0.500	0.455		mg/Kg		91	60 - 140
1,1-Dichloroethane	0.500	0.448		mg/Kg		90	80 - 131
1,1-Dichloroethene	0.500	0.431		mg/Kg		86	73 - 135
1,1-Dichloropropene	0.500	0.431		mg/Kg		86	78 - 132
1,2,3-Trichlorobenzene	0.500	0.396		mg/Kg		79	62 - 127
1,2,3-Trichloropropane	0.500	0.445		mg/Kg		89	60 - 131
1,2,4-Trichlorobenzene	0.500	0.415		mg/Kg		83	67 - 126
1,2,4-Trimethylbenzene	0.500	0.456		mg/Kg		91	68 - 132
1,2-Dibromo-3-Chloropropane	0.500	0.390	J	mg/Kg		78	49 - 132
1,2-Dichlorobenzene	0.500	0.430		mg/Kg		86	73 - 124
1,2-Dichloroethane	0.500	0.392		mg/Kg		78	61 - 142

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18424/2-A
Matrix: Solid
Analysis Batch: 18429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18424

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	0.500	0.409		mg/Kg		82	58 - 129
1,3,5-Trimethylbenzene	0.500	0.440		mg/Kg		88	68 - 133
1,3-Dichlorobenzene	0.500	0.431		mg/Kg		86	80 - 122
1,3-Dichloropropane	0.500	0.397		mg/Kg		79	69 - 125
1,4-Dichlorobenzene	0.500	0.443		mg/Kg		89	72 - 125
2,2-Dichloropropane	0.500	0.411		mg/Kg		82	60 - 150
2-Butanone (MEK)	2.50	1.92		mg/Kg		77	36 - 150
2-Chlorotoluene	0.500	0.440		mg/Kg		88	69 - 129
2-Hexanone	2.50	1.87		mg/Kg		75	59 - 127
4-Chlorotoluene	0.500	0.444		mg/Kg		89	66 - 133
4-Methyl-2-pentanone (MIBK)	2.50	1.94		mg/Kg		78	54 - 131
Acetone	2.50	1.92	J	mg/Kg		77	20 - 150
Benzene	0.500	0.430		mg/Kg		86	76 - 123
Bromobenzene	0.500	0.428		mg/Kg		86	67 - 129
Bromochloromethane	0.500	0.425		mg/Kg		85	69 - 139
Bromodichloromethane	0.500	0.388		mg/Kg		78	72 - 128
Bromoform	0.500	0.361		mg/Kg		72	58 - 126
Bromomethane	0.500	0.468	J	mg/Kg		94	32 - 150
Carbon disulfide	0.500	0.429		mg/Kg		86	67 - 135
Carbon tetrachloride	0.500	0.437		mg/Kg		87	74 - 135
Chlorobenzene	0.500	0.414		mg/Kg		83	80 - 120
Chloroethane	0.500	0.517		mg/Kg		103	30 - 150
Chloroform	0.500	0.451		mg/Kg		90	73 - 130
Chloromethane	0.500	0.406	J	mg/Kg		81	46 - 146
cis-1,2-Dichloroethene	0.500	0.415		mg/Kg		83	80 - 126
cis-1,3-Dichloropropene	0.500	0.376		mg/Kg		75	70 - 126
Dibromochloromethane	0.500	0.379		mg/Kg		76	67 - 127
Dibromomethane	0.500	0.382		mg/Kg		76	67 - 129
Dichlorodifluoromethane	0.500	0.329		mg/Kg		66	28 - 150
Dichlorofluoromethane	0.500	0.448		mg/Kg		90	54 - 150
Ethylbenzene	0.500	0.439		mg/Kg		88	77 - 121
Hexachlorobutadiene	0.500	0.424		mg/Kg		85	72 - 130
Hexane	0.500	0.409		mg/Kg		82	65 - 139
Isopropylbenzene	0.500	0.438		mg/Kg		88	78 - 131
m,p-Xylene	0.500	0.438		mg/Kg		88	78 - 124
Methyl tert-butyl ether	0.500	0.388		mg/Kg		78	67 - 130
Methylene Chloride	0.500	0.422		mg/Kg		84	20 - 150
Naphthalene	0.500	0.403		mg/Kg		81	55 - 128
n-Butylbenzene	0.500	0.444		mg/Kg		89	67 - 131
N-Propylbenzene	0.500	0.449		mg/Kg		90	67 - 131
o-Xylene	0.500	0.426		mg/Kg		85	77 - 129
p-Isopropyltoluene	0.500	0.452		mg/Kg		90	67 - 130
sec-Butylbenzene	0.500	0.444		mg/Kg		89	70 - 130
Styrene	0.500	0.408		mg/Kg		82	70 - 128
tert-Butylbenzene	0.500	0.440		mg/Kg		88	69 - 130
Tetrachloroethene	0.500	0.454		mg/Kg		91	70 - 134
Toluene	0.500	0.436		mg/Kg		87	77 - 125
trans-1,2-Dichloroethene	0.500	0.437		mg/Kg		87	73 - 133

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-18424/2-A
Matrix: Solid
Analysis Batch: 18429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18424

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	0.500	0.408		mg/Kg		82	68 - 124
Trichloroethene	0.500	0.428		mg/Kg		86	79 - 127
Trichlorofluoromethane	0.500	0.431		mg/Kg		86	53 - 150
Vinyl chloride	0.500	0.405		mg/Kg		81	38 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 120*
4-Bromofluorobenzene (Surr)	*102*		*76 - 122*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Lab Sample ID: MB 590-18424/1-A
Matrix: Solid
Analysis Batch: 18444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18424

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		08/21/18 13:45	08/22/18 20:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41.5 - 162*	*08/21/18 13:45*	*08/22/18 20:55*	*1*

Lab Sample ID: LCS 590-18424/3-A
Matrix: Solid
Analysis Batch: 18444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18424

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	50.0	53.1		mg/Kg		106	74.4 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*41.5 - 162*

Lab Sample ID: 590-9193-1 DU
Matrix: Solid
Analysis Batch: 18444

Client Sample ID: USPAR-1 (4.5-5)
Prep Type: Total/NA
Prep Batch: 18424

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Gasoline	ND		ND		mg/Kg	☼	NC	32.3

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41.5 - 162*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-18465/1-A
Matrix: Solid
Analysis Batch: 18472

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
2-Methylnaphthalene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
1-Methylnaphthalene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Acenaphthylene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Acenaphthene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Fluorene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Phenanthrene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Anthracene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Fluoranthene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Pyrene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Benzo[a]anthracene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Chrysene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Benzo[b]fluoranthene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Benzo[k]fluoranthene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Benzo[a]pyrene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		08/23/18 08:42	08/23/18 12:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*73*		*23 - 120*	*08/23/18 08:42*	*08/23/18 12:42*	*1*
2-Fluorobiphenyl (Surr)	*83*		*38 - 123*	*08/23/18 08:42*	*08/23/18 12:42*	*1*
p-Terphenyl-d14	*102*		*68 - 136*	*08/23/18 08:42*	*08/23/18 12:42*	*1*

Lab Sample ID: LCS 590-18465/2-A
Matrix: Solid
Analysis Batch: 18472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	161		ug/Kg		60	41 - 121
2-Methylnaphthalene	267	191		ug/Kg		71	39 - 132
1-Methylnaphthalene	267	207		ug/Kg		78	46 - 131
Acenaphthylene	267	184		ug/Kg		69	56 - 123
Acenaphthene	267	208		ug/Kg		78	43 - 140
Fluorene	267	205		ug/Kg		77	54 - 131
Phenanthrene	267	210		ug/Kg		79	55 - 141
Anthracene	267	232		ug/Kg		87	60 - 129
Fluoranthene	267	236		ug/Kg		89	63 - 141
Pyrene	267	225		ug/Kg		84	62 - 139
Benzo[a]anthracene	267	236		ug/Kg		89	61 - 136
Chrysene	267	235		ug/Kg		88	57 - 144
Benzo[b]fluoranthene	267	259		ug/Kg		97	66 - 141
Benzo[k]fluoranthene	267	260		ug/Kg		97	63 - 150
Benzo[a]pyrene	267	254		ug/Kg		95	60 - 133
Indeno[1,2,3-cd]pyrene	267	270		ug/Kg		101	55 - 142
Dibenz(a,h)anthracene	267	271		ug/Kg		102	60 - 150
Benzo[g,h,i]perylene	267	272		ug/Kg		102	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-18465/2-A
Matrix: Solid
Analysis Batch: 18472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18465

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	*70*		*23 - 120*
2-Fluorobiphenyl (Surr)	*82*		*38 - 123*
p-Terphenyl-d14	*90*		*68 - 136*

Lab Sample ID: LCSD 590-18465/3-A
Matrix: Solid
Analysis Batch: 18472

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18465

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			267	163		ug/Kg		61	41 - 121	1	35
2-Methylnaphthalene			267	183		ug/Kg		68	39 - 132	4	35
1-Methylnaphthalene			267	216		ug/Kg		81	46 - 131	4	35
Acenaphthylene			267	189		ug/Kg		71	56 - 123	3	35
Acenaphthene			267	213		ug/Kg		80	43 - 140	2	35
Fluorene			267	213		ug/Kg		80	54 - 131	4	35
Phenanthrene			267	218		ug/Kg		82	55 - 141	4	35
Anthracene			267	248		ug/Kg		93	60 - 129	7	35
Fluoranthene			267	254		ug/Kg		95	63 - 141	7	35
Pyrene			267	231		ug/Kg		87	62 - 139	3	35
Benzo[a]anthracene			267	234		ug/Kg		88	61 - 136	1	35
Chrysene			267	244		ug/Kg		92	57 - 144	4	35
Benzo[b]fluoranthene			267	256		ug/Kg		96	66 - 141	1	35
Benzo[k]fluoranthene			267	253		ug/Kg		95	63 - 150	3	35
Benzo[a]pyrene			267	246		ug/Kg		92	60 - 133	3	35
Indeno[1,2,3-cd]pyrene			267	262		ug/Kg		98	55 - 142	3	35
Dibenz(a,h)anthracene			267	263		ug/Kg		99	60 - 150	3	35
Benzo[g,h,i]perylene			267	267		ug/Kg		100	58 - 147	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	*72*		*23 - 120*
2-Fluorobiphenyl (Surr)	*87*		*38 - 123*
p-Terphenyl-d14	*92*		*68 - 136*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 590-18553/1-A
Matrix: Solid
Analysis Batch: 18560

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18553

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg		08/28/18 13:03	08/28/18 23:24	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg		08/28/18 13:03	08/28/18 23:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*110*		*50 - 150*	*08/28/18 13:03*	*08/28/18 23:24*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 590-18553/1-A
Matrix: Solid
Analysis Batch: 18560

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18553

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Triacontane-d62	98		50 - 150	08/28/18 13:03	08/28/18 23:24	1

Lab Sample ID: LCS 590-18553/2-A
Matrix: Solid
Analysis Batch: 18560

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18553

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			66.7	50.6		mg/Kg		76	50 - 150		
Residual Range Organics (RRO) (C25-C36)			66.7	58.4		mg/Kg		88	50 - 150		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	102		50 - 150
n-Triacontane-d62	93		50 - 150

Lab Sample ID: 590-9193-2 DU
Matrix: Solid
Analysis Batch: 18560

Client Sample ID: USPAR-2 (5.5-6)
Prep Type: Total/NA
Prep Batch: 18553

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	610			587		mg/Kg	☼			4	40
Residual Range Organics (RRO) (C25-C36)	4700			4290		mg/Kg	☼			8	40

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	88		50 - 150
n-Triacontane-d62	84		50 - 150

Lab Sample ID: 590-9193-3 DU
Matrix: Solid
Analysis Batch: 18560

Client Sample ID: USPAR-3 (5-5.5)
Prep Type: Total/NA
Prep Batch: 18553

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	36			32.5		mg/Kg	☼			10	40
Residual Range Organics (RRO) (C25-C36)	300			276		mg/Kg	☼			7	40

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	107		50 - 150
n-Triacontane-d62	101		50 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-18491/2-A
Matrix: Solid
Analysis Batch: 18579

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18491

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		08/24/18 08:53	08/29/18 14:02	1
Barium	ND		1.3		mg/Kg		08/24/18 08:53	08/29/18 14:02	1
Cadmium	ND		1.0		mg/Kg		08/24/18 08:53	08/29/18 14:02	1
Chromium	ND		1.3		mg/Kg		08/24/18 08:53	08/29/18 14:02	1
Lead	ND		3.0		mg/Kg		08/24/18 08:53	08/29/18 14:02	1
Selenium	ND	^	5.0		mg/Kg		08/24/18 08:53	08/29/18 14:02	1
Silver	ND		1.3		mg/Kg		08/24/18 08:53	08/29/18 14:02	1

Lab Sample ID: LCS 590-18491/1-A
Matrix: Solid
Analysis Batch: 18579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18491

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	48.2		mg/Kg		96	80 - 120
Barium	50.0	51.5		mg/Kg		103	80 - 120
Cadmium	50.0	50.1		mg/Kg		100	80 - 120
Chromium	50.0	50.3		mg/Kg		101	80 - 120
Lead	50.0	51.2		mg/Kg		102	80 - 120
Selenium	50.0	48.2	^	mg/Kg		96	80 - 120
Silver	50.0	50.1		mg/Kg		100	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-18517/9-A
Matrix: Solid
Analysis Batch: 18534

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		08/27/18 09:28	08/27/18 14:44	1

Lab Sample ID: LCS 590-18517/8-A
Matrix: Solid
Analysis Batch: 18534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	199		ug/Kg		100	80 - 120

Client Sample ID: USPAR-1 (4.5-5)
Date Collected: 08/20/18 11:30
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18447	08/22/18 09:23	CWD	TAL SPK

Client Sample ID: USPAR-1 (4.5-5)
Date Collected: 08/20/18 11:30
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-1
Matrix: Solid
Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.47 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 02:09	MRS	TAL SPK
Total/NA	Prep	5035			6.47 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/22/18 21:40	MRS	TAL SPK
Total/NA	Prep	3550C			15.90 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18472	08/23/18 18:55	NMI	TAL SPK
Total/NA	Prep	3550C			15.90 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		10			18510	08/25/18 01:58	NMI	TAL SPK
Total/NA	Prep	3550C			15.22 g	5 mL	18553	08/28/18 13:03	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		20			18570	08/29/18 10:44	NMI	TAL SPK
Total/NA	Prep	3050B			1.30 g	50 mL	18491	08/24/18 08:53	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18579	08/29/18 14:45	JSP	TAL SPK
Total/NA	Prep	7471B			1.49 g	50 mL	18517	08/27/18 09:28	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18534	08/27/18 14:58	JSP	TAL SPK

Client Sample ID: USPAR-2 (5.5-6)
Date Collected: 08/20/18 11:58
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18447	08/22/18 09:23	CWD	TAL SPK

Client Sample ID: USPAR-2 (5.5-6)
Date Collected: 08/20/18 11:58
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-2
Matrix: Solid
Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.14 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 02:30	MRS	TAL SPK
Total/NA	Prep	5035			5.14 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/22/18 22:24	MRS	TAL SPK
Total/NA	Prep	3550C			15.06 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		10			18472	08/23/18 19:20	NMI	TAL SPK
Total/NA	Prep	3550C			15.18 g	5 mL	18553	08/28/18 13:03	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		10			18560	08/29/18 00:21	NMI	TAL SPK
Total/NA	Prep	3050B			1.37 g	50 mL	18491	08/24/18 08:53	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: USPAR-2 (5.5-6)
Date Collected: 08/20/18 11:58
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-2
Matrix: Solid
Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		2			18579	08/29/18 14:48	JSP	TAL SPK
Total/NA	Prep	7471B			0.66 g	50 mL	18517	08/27/18 09:28	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18534	08/27/18 15:00	JSP	TAL SPK

Client Sample ID: USPAR-3 (5-5.5)
Date Collected: 08/20/18 12:05
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18447	08/22/18 09:23	CWD	TAL SPK

Client Sample ID: USPAR-3 (5-5.5)
Date Collected: 08/20/18 12:05
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-3
Matrix: Solid
Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 02:51	MRS	TAL SPK
Total/NA	Prep	5035			4.96 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/22/18 22:46	MRS	TAL SPK
Total/NA	Prep	3550C			15.78 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18472	08/23/18 19:45	NMI	TAL SPK
Total/NA	Prep	3550C			15.29 g	5 mL	18553	08/28/18 13:03	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			18560	08/29/18 00:59	NMI	TAL SPK
Total/NA	Prep	3050B			1.23 g	50 mL	18491	08/24/18 08:53	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18579	08/29/18 15:02	JSP	TAL SPK
Total/NA	Prep	7471B			0.78 g	50 mL	18517	08/27/18 09:28	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18534	08/27/18 15:03	JSP	TAL SPK

Client Sample ID: USPAR-4 (5.5-6)
Date Collected: 08/20/18 12:12
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18447	08/22/18 09:23	CWD	TAL SPK

Client Sample ID: USPAR-4 (5.5-6)
Date Collected: 08/20/18 12:12
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-4
Matrix: Solid
Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.27 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 03:12	MRS	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.27 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/22/18 23:08	MRS	TAL SPK
Total/NA	Prep	3550C			15.07 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18472	08/23/18 20:10	NMI	TAL SPK
Total/NA	Prep	3550C			15.07 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		10			18510	08/25/18 02:23	NMI	TAL SPK
Total/NA	Prep	3550C			15.35 g	5 mL	18553	08/28/18 13:03	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		20			18570	08/29/18 11:04	NMI	TAL SPK
Total/NA	Prep	3050B			1.34 g	50 mL	18491	08/24/18 08:53	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18579	08/29/18 15:05	JSP	TAL SPK
Total/NA	Prep	7471B			1.06 g	50 mL	18517	08/27/18 09:28	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18534	08/27/18 15:10	JSP	TAL SPK

Client Sample ID: USPAR-5 (5-5.5)

Lab Sample ID: 590-9193-5
Date Collected: 08/20/18 12:17
Matrix: Solid
Date Received: 08/21/18 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18447	08/22/18 09:23	CWD	TAL SPK

Client Sample ID: USPAR-5 (5-5.5)

Lab Sample ID: 590-9193-5
Date Collected: 08/20/18 12:17
Matrix: Solid
Date Received: 08/21/18 16:30
Percent Solids: 87.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.02 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 03:33	MRS	TAL SPK
Total/NA	Prep	5035			6.02 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/22/18 23:30	MRS	TAL SPK
Total/NA	Prep	3550C			15.57 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18472	08/23/18 20:35	NMI	TAL SPK
Total/NA	Prep	3550C			15.29 g	5 mL	18553	08/28/18 13:03	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		10			18570	08/29/18 11:23	NMI	TAL SPK
Total/NA	Prep	3050B			1.43 g	50 mL	18491	08/24/18 08:53	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18579	08/29/18 15:09	JSP	TAL SPK
Total/NA	Prep	7471B			0.82 g	50 mL	18517	08/27/18 09:28	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18534	08/27/18 15:12	JSP	TAL SPK

Client Sample ID: USPAR-6 (5-5.5)

Lab Sample ID: 590-9193-6
Date Collected: 08/20/18 12:22
Matrix: Solid
Date Received: 08/21/18 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18447	08/22/18 09:23	CWD	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: USPAR-6 (5-5.5)

Date Collected: 08/20/18 12:22
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-6
Matrix: Solid
Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.94 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 03:54	MRS	TAL SPK
Total/NA	Prep	5035			4.94 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/22/18 23:52	MRS	TAL SPK
Total/NA	Prep	3550C			15.79 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18472	08/23/18 21:00	NMI	TAL SPK
Total/NA	Prep	3550C			15.79 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		10			18528	08/28/18 02:20	NMI	TAL SPK
Total/NA	Prep	3550C			15.33 g	5 mL	18553	08/28/18 13:03	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		10			18570	08/29/18 11:43	NMI	TAL SPK
Total/NA	Prep	3050B			1.19 g	50 mL	18491	08/24/18 08:53	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18579	08/29/18 15:13	JSP	TAL SPK
Total/NA	Prep	7471B			0.89 g	50 mL	18517	08/27/18 09:28	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18534	08/27/18 15:14	JSP	TAL SPK

Client Sample ID: DUP

Date Collected: 08/20/18 12:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18447	08/22/18 09:23	CWD	TAL SPK

Client Sample ID: DUP

Date Collected: 08/20/18 12:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-7
Matrix: Solid
Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.91 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 04:15	MRS	TAL SPK
Total/NA	Prep	5035			4.91 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/23/18 00:14	MRS	TAL SPK
Total/NA	Prep	3550C			15.53 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18472	08/23/18 21:25	NMI	TAL SPK
Total/NA	Prep	3550C			15.53 g	2 mL	18465	08/23/18 08:42	MO	TAL SPK
Total/NA	Analysis	8270D SIM		10			18528	08/28/18 02:45	NMI	TAL SPK
Total/NA	Prep	3550C			15.08 g	5 mL	18553	08/28/18 13:03	MO	TAL SPK
Total/NA	Analysis	NWTPH-Dx		10			18570	08/29/18 12:03	NMI	TAL SPK
Total/NA	Prep	3050B			1.27 g	50 mL	18491	08/24/18 08:53	JSP	TAL SPK
Total/NA	Analysis	6010C		2			18579	08/29/18 15:16	JSP	TAL SPK
Total/NA	Prep	7471B			0.86 g	50 mL	18517	08/27/18 09:28	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18534	08/27/18 15:16	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Client Sample ID: TB

Date Collected: 08/20/18 00:00
Date Received: 08/21/18 16:30

Lab Sample ID: 590-9193-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.85 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	18429	08/22/18 04:36	MRS	TAL SPK
Total/NA	Prep	5035			4.85 g	5 mL	18424	08/21/18 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	18444	08/23/18 00:36	MRS	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Laboratory: TestAmerica Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-025	12-07-18
Oregon	NELAP	10	4137	12-07-18
Washington	State Program	10	C569	01-06-19

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9193-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
5035	Closed System Purge and Trap	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency
NWTPH = Northwest Total Petroleum Hydrocarbon
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record

590-9193 Chain of Custody

53.1

Client Information	Sampler: JR Sugalski	Lab PM: Arrington, Randee E
Client Contact: JR Sugalski	Phone: 509.209.2830	E-Mail: randee.arrington@testamericain
Company: GeoEngineers Inc		
Address: 523 East Second Ave	Due Date Requested:	
City: Spokane	TAT Requested (days): Standard	
State, Zip: WA, 99202		
Phone: 509-209-2830(Tel)	PO #: Purchase Order not required	
Email: jsugalski@geoengineers.com	WO #: 0110-148-06	
Project Name: Riverfront Park (0110-148-06)	Project #: 59000877	
Site:	SSOW#:	

Analysis Requested

Job #:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	6010C, 7471B - RCRA 8 Metals	8260C - 8260C - Volatiles	NWTPH-Dx	8270D SIM PAHs	Total Number of containers	Special Instructions/Note:
			Preservation Code:				F	N	F	N	N		
USPAR-1(4.5-5)	8/20/18	11:30	G	Solid		Y	X	X	X	X	X		
USPAR-2 (5.5-6)	8/20/18	11:58	G	Solid		Y	X	X	X	X	X		
USPAR-3 (5-5.5)	8/20/18	1205	G	Solid		Y	X	X	X	X	X		
USPAR-4 (5.5-6)	8/20/18	12:12	G	Solid		Y	X	X	X	X	X		
USPAR-5 (5-5.5)	8/20/18	12:17	G	Solid		Y	X	X	X	X	X		
USPAR-6 (5-5.5)	8/20/18	12:22	G	Solid		Y	X	X	X	X	X		
DUP	8/20/18	12:00	G	Solid		Y	X	X	X	X	X		
TB	—	—	—	Solid			X		X				

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		8/20/18 15:25	GEI		8/20/18 15:25	GEI
2		8/20/18 1630	GEI	Sheila Knott	8/20/18 1630	TAOPC
3						

Custody Seals Intact: △ Yes △ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 6.0 °C IR004

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-9193-1

Login Number: 9193
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

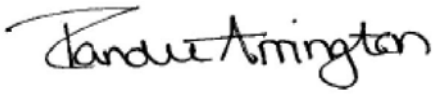
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-9244-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski



Authorized for release by:
9/6/2018 11:32:15 AM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Job ID: 590-9244-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 8/28/2018 4:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0º C.

GC/MS Semi VOA
Method 8270D SIM: Surrogate recovery for the following sample was outside control limits: HSP-14C (1-2) (590-9244-5). Evidence of matrix interference due to non-target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 6010C: The low level continuing calibration verification (CCVL) associated with batch 590-18644 recovered above the upper control limit for Selenium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-9244-1	HSP-10C (1-2)	Solid	08/28/18 10:10	08/28/18 16:05
590-9244-2	HSP-11C (1-2)	Solid	08/28/18 10:20	08/28/18 16:05
590-9244-3	HSP-12C (1-2)	Solid	08/28/18 10:30	08/28/18 16:05
590-9244-4	HSP-13C (1-2)	Solid	08/28/18 10:40	08/28/18 16:05
590-9244-5	HSP-14C (1-2)	Solid	08/28/18 10:50	08/28/18 16:05
590-9244-6	DUP- 082818	Solid	08/28/18 08:00	08/28/18 16:05

Definitions/Glossary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: HSP-10C (1-2)

Date Collected: 08/28/18 10:10
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-1

Matrix: Solid
Percent Solids: 94.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Acenaphthylene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Acenaphthene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Fluorene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Phenanthrene	**32**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Anthracene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Fluoranthene	**56**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Pyrene	**52**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Benzo[a]anthracene	**26**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Chrysene	**30**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Benzo[b]fluoranthene	**40**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Benzo[k]fluoranthene	**15**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Benzo[a]pyrene	**33**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Indeno[1,2,3-cd]pyrene	**24**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Dibenz(a,h)anthracene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1
Benzo[g,h,i]perylene	**31**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*74*		*23 - 120*	*09/04/18 09:44*	*09/04/18 14:50*	*1*
2-Fluorobiphenyl (Surr)	*84*		*38 - 123*	*09/04/18 09:44*	*09/04/18 14:50*	*1*
p-Terphenyl-d14	*89*		*68 - 136*	*09/04/18 09:44*	*09/04/18 14:50*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	09/05/18 09:05	09/05/18 11:03	1
Diesel Range Organics (DRO) (C10-C25)	ND		53		mg/Kg	☼	09/05/18 09:05	09/05/18 11:03	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	09/05/18 09:05	09/05/18 11:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*103*		*50 - 150*	*09/05/18 09:05*	*09/05/18 11:03*	*1*
n-Triacontane-d62	*99*		*50 - 150*	*09/05/18 09:05*	*09/05/18 11:03*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**14**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:29	2
Barium	**58**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:29	2
Cadmium	ND		1.7		mg/Kg	☼	08/30/18 10:24	08/31/18 18:29	2
Chromium	**11**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:29	2
Lead	**46**		5.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:29	2
Selenium	ND		8.7		mg/Kg	☼	08/30/18 10:24	08/31/18 18:29	2
Silver	ND		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:29	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**37**		32		ug/Kg	☼	08/30/18 10:45	08/31/18 10:54	1

Client Sample ID: HSP-11C (1-2)
Date Collected: 08/28/18 10:20
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-2
Matrix: Solid
Percent Solids: 94.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Acenaphthylene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Acenaphthene	**25**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Fluorene	**14**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Phenanthrene	**150**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Anthracene	**49**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Fluoranthene	**250**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Pyrene	**220**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Benzo[a]anthracene	**120**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Chrysene	**130**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Benzo[b]fluoranthene	**150**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Benzo[k]fluoranthene	**63**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Benzo[a]pyrene	**130**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Indeno[1,2,3-cd]pyrene	**70**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Dibenz(a,h)anthracene	**22**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1
Benzo[g,h,i]perylene	**82**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*82*		*23 - 120*	*09/04/18 09:44*	*09/04/18 15:15*	*1*
2-Fluorobiphenyl (Surr)	*85*		*38 - 123*	*09/04/18 09:44*	*09/04/18 15:15*	*1*
p-Terphenyl-d14	*98*		*68 - 136*	*09/04/18 09:44*	*09/04/18 15:15*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	09/05/18 09:05	09/05/18 11:23	1
Diesel Range Organics (DRO) (C10-C25)	ND		51		mg/Kg	☼	09/05/18 09:05	09/05/18 11:23	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg	☼	09/05/18 09:05	09/05/18 11:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*09/05/18 09:05*	*09/05/18 11:23*	*1*
n-Triacontane-d62	*85*		*50 - 150*	*09/05/18 09:05*	*09/05/18 11:23*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**15**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:33	2
Barium	**69**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:33	2
Cadmium	ND		1.8		mg/Kg	☼	08/30/18 10:24	08/31/18 18:33	2
Chromium	**9.3**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:33	2
Lead	**54**		5.3		mg/Kg	☼	08/30/18 10:24	08/31/18 18:33	2
Selenium	ND		8.9		mg/Kg	☼	08/30/18 10:24	08/31/18 18:33	2
Silver	ND		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:33	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**43**		35		ug/Kg	☼	08/30/18 10:45	08/31/18 11:03	1

Client Sample ID: HSP-12C (1-2)

Date Collected: 08/28/18 10:30
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-3

Matrix: Solid
Percent Solids: 96.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**13**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
2-Methylnaphthalene	**10**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Acenaphthylene	**22**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Acenaphthene	**13**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Fluorene	**12**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Phenanthrene	**140**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Anthracene	**53**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Fluoranthene	**250**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Pyrene	**230**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Benzo[a]anthracene	**110**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Chrysene	**140**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Benzo[b]fluoranthene	**170**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Benzo[k]fluoranthene	**62**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Benzo[a]pyrene	**120**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Indeno[1,2,3-cd]pyrene	**86**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Dibenz(a,h)anthracene	**27**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1
Benzo[g,h,i]perylene	**110**		10		ug/Kg	☼	09/04/18 09:44	09/04/18 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78*		*23 - 120*	*09/04/18 09:44*	*09/04/18 15:40*	*1*
2-Fluorobiphenyl (Surr)	*92*		*38 - 123*	*09/04/18 09:44*	*09/04/18 15:40*	*1*
p-Terphenyl-d14	*96*		*68 - 136*	*09/04/18 09:44*	*09/04/18 15:40*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg	☼	09/05/18 09:05	09/05/18 11:43	1
Diesel Range Organics (DRO) (C10-C25)	ND		49		mg/Kg	☼	09/05/18 09:05	09/05/18 11:43	1
Residual Range Organics (RRO) (C25-C36)	**130**		99		mg/Kg	☼	09/05/18 09:05	09/05/18 11:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*50 - 150*	*09/05/18 09:05*	*09/05/18 11:43*	*1*
n-Triacontane-d62	*97*		*50 - 150*	*09/05/18 09:05*	*09/05/18 11:43*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**24**		2.0		mg/Kg	☼	08/30/18 10:24	08/31/18 18:37	2
Barium	**88**		2.0		mg/Kg	☼	08/30/18 10:24	08/31/18 18:37	2
Cadmium	**3.6**		1.6		mg/Kg	☼	08/30/18 10:24	08/31/18 18:37	2
Chromium	**10**		2.0		mg/Kg	☼	08/30/18 10:24	08/31/18 18:37	2
Lead	**1000**		4.7		mg/Kg	☼	08/30/18 10:24	08/31/18 18:37	2
Selenium	ND		7.9		mg/Kg	☼	08/30/18 10:24	08/31/18 18:37	2
Silver	ND		2.0		mg/Kg	☼	08/30/18 10:24	08/31/18 18:37	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**230**		34		ug/Kg	☼	08/30/18 10:45	08/31/18 11:05	1

Client Sample ID: HSP-13C (1-2)

Date Collected: 08/28/18 10:40
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-4

Matrix: Solid
Percent Solids: 89.2

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	21		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
2-Methylnaphthalene	28		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
1-Methylnaphthalene	26		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Acenaphthylene	25		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Acenaphthene	110		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Fluorene	68		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Phenanthrene	800		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Anthracene	230		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Fluoranthene	1200		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Pyrene	1500		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Benzo[a]anthracene	660		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Chrysene	690		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Benzo[b]fluoranthene	690		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Benzo[k]fluoranthene	290		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Benzo[a]pyrene	680		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Indeno[1,2,3-cd]pyrene	260		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Dibenz(a,h)anthracene	79		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1
Benzo[g,h,i]perylene	290		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*74*		*23 - 120*	*09/04/18 09:44*	*09/04/18 16:05*	*1*
2-Fluorobiphenyl (Surr)	*83*		*38 - 123*	*09/04/18 09:44*	*09/04/18 16:05*	*1*
p-Terphenyl-d14	*97*		*68 - 136*	*09/04/18 09:44*	*09/04/18 16:05*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		27		mg/Kg	☼	09/05/18 09:05	09/05/18 12:02	1
Diesel Range Organics (DRO) (C10-C25)	ND		55		mg/Kg	☼	09/05/18 09:05	09/05/18 12:02	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	09/05/18 09:05	09/05/18 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*50 - 150*	*09/05/18 09:05*	*09/05/18 12:02*	*1*
n-Triacontane-d62	*102*		*50 - 150*	*09/05/18 09:05*	*09/05/18 12:02*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.9		2.1		mg/Kg	☼	08/30/18 10:24	08/31/18 18:40	2
Barium	140		2.1		mg/Kg	☼	08/30/18 10:24	08/31/18 18:40	2
Cadmium	11		1.7		mg/Kg	☼	08/30/18 10:24	08/31/18 18:40	2
Chromium	14		2.1		mg/Kg	☼	08/30/18 10:24	08/31/18 18:40	2
Lead	290		5.1		mg/Kg	☼	08/30/18 10:24	08/31/18 18:40	2
Selenium	ND		8.5		mg/Kg	☼	08/30/18 10:24	08/31/18 18:40	2
Silver	ND		2.1		mg/Kg	☼	08/30/18 10:24	08/31/18 18:40	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	230		33		ug/Kg	☼	08/30/18 10:45	08/31/18 11:07	1

Client Sample ID: HSP-14C (1-2)

Date Collected: 08/28/18 10:50
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-5

Matrix: Solid
Percent Solids: 92.1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Acenaphthylene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Acenaphthene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Fluorene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Phenanthrene	**28**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Anthracene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Fluoranthene	**44**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Pyrene	**46**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Benzo[a]anthracene	**24**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Chrysene	**27**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Benzo[b]fluoranthene	**30**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Benzo[k]fluoranthene	**14**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Benzo[a]pyrene	**29**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Indeno[1,2,3-cd]pyrene	**16**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Dibenz(a,h)anthracene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1
Benzo[g,h,i]perylene	**19**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*40*		*23 - 120*	*09/04/18 09:44*	*09/04/18 16:29*	*1*
2-Fluorobiphenyl (Surr)	*49*		*38 - 123*	*09/04/18 09:44*	*09/04/18 16:29*	*1*
p-Terphenyl-d14	*60*	*X*	*68 - 136*	*09/04/18 09:44*	*09/04/18 16:29*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg	☼	09/05/18 09:05	09/05/18 12:22	1
Diesel Range Organics (DRO) (C10-C25)	ND		51		mg/Kg	☼	09/05/18 09:05	09/05/18 12:22	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg	☼	09/05/18 09:05	09/05/18 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*103*		*50 - 150*	*09/05/18 09:05*	*09/05/18 12:22*	*1*
n-Triacontane-d62	*98*		*50 - 150*	*09/05/18 09:05*	*09/05/18 12:22*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**8.4**		1.9		mg/Kg	☼	08/30/18 10:24	08/31/18 18:54	2
Barium	**65**		1.9		mg/Kg	☼	08/30/18 10:24	08/31/18 18:54	2
Cadmium	ND		1.6		mg/Kg	☼	08/30/18 10:24	08/31/18 18:54	2
Chromium	**11**		1.9		mg/Kg	☼	08/30/18 10:24	08/31/18 18:54	2
Lead	**22**		4.7		mg/Kg	☼	08/30/18 10:24	08/31/18 18:54	2
Selenium	ND	^	7.8		mg/Kg	☼	08/30/18 10:24	08/31/18 18:54	2
Silver	ND		1.9		mg/Kg	☼	08/30/18 10:24	08/31/18 18:54	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**70**		31		ug/Kg	☼	08/30/18 10:45	08/31/18 11:10	1

Client Sample ID: DUP- 082818
Date Collected: 08/28/18 08:00
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-6
Matrix: Solid
Percent Solids: 93.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Acenaphthylene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Acenaphthene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Fluorene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Phenanthrene	**20**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Anthracene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Fluoranthene	**33**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Pyrene	**36**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Benzo[a]anthracene	**19**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Chrysene	**24**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Benzo[b]fluoranthene	**29**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Benzo[k]fluoranthene	**13**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Benzo[a]pyrene	**25**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Indeno[1,2,3-cd]pyrene	**15**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Dibenz(a,h)anthracene	ND		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1
Benzo[g,h,i]perylene	**18**		11		ug/Kg	☼	09/04/18 09:44	09/04/18 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*70*		*23 - 120*	*09/04/18 09:44*	*09/04/18 16:54*	*1*
2-Fluorobiphenyl (Surr)	*86*		*38 - 123*	*09/04/18 09:44*	*09/04/18 16:54*	*1*
p-Terphenyl-d14	*94*		*68 - 136*	*09/04/18 09:44*	*09/04/18 16:54*	*1*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		26		mg/Kg	☼	09/05/18 09:05	09/05/18 12:42	1
Diesel Range Organics (DRO) (C10-C25)	ND		53		mg/Kg	☼	09/05/18 09:05	09/05/18 12:42	1
Residual Range Organics (RRO) (C25-C36)	ND		110		mg/Kg	☼	09/05/18 09:05	09/05/18 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*50 - 150*	*09/05/18 09:05*	*09/05/18 12:42*	*1*
n-Triacontane-d62	*98*		*50 - 150*	*09/05/18 09:05*	*09/05/18 12:42*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**8.2**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:58	2
Barium	**71**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:58	2
Cadmium	ND		1.7		mg/Kg	☼	08/30/18 10:24	08/31/18 18:58	2
Chromium	**11**		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:58	2
Lead	**20**		5.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:58	2
Selenium	ND	^	8.7		mg/Kg	☼	08/30/18 10:24	08/31/18 18:58	2
Silver	ND		2.2		mg/Kg	☼	08/30/18 10:24	08/31/18 18:58	2

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	**53**		37		ug/Kg	☼	08/30/18 10:45	08/31/18 11:16	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-18646/1-A
Matrix: Solid
Analysis Batch: 18647

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18646

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
2-Methylnaphthalene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
1-Methylnaphthalene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Acenaphthylene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Acenaphthene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Fluorene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Phenanthrene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Anthracene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Fluoranthene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Pyrene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Benzo[a]anthracene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Chrysene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Benzo[b]fluoranthene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Benzo[k]fluoranthene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Benzo[a]pyrene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		09/04/18 09:44	09/04/18 12:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*23 - 120*	*09/04/18 09:44*	*09/04/18 12:47*	*1*
2-Fluorobiphenyl (Surr)	*96*		*38 - 123*	*09/04/18 09:44*	*09/04/18 12:47*	*1*
p-Terphenyl-d14	*111*		*68 - 136*	*09/04/18 09:44*	*09/04/18 12:47*	*1*

Lab Sample ID: LCS 590-18646/2-A
Matrix: Solid
Analysis Batch: 18647

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	267	186		ug/Kg		70	41 - 121
2-Methylnaphthalene	267	201		ug/Kg		76	39 - 132
1-Methylnaphthalene	267	232		ug/Kg		87	46 - 131
Acenaphthylene	267	212		ug/Kg		80	56 - 123
Acenaphthene	267	217		ug/Kg		81	43 - 140
Fluorene	267	221		ug/Kg		83	54 - 131
Phenanthrene	267	217		ug/Kg		81	55 - 141
Anthracene	267	229		ug/Kg		86	60 - 129
Fluoranthene	267	233		ug/Kg		87	63 - 141
Pyrene	267	211		ug/Kg		79	62 - 139
Benzo[a]anthracene	267	240		ug/Kg		90	61 - 136
Chrysene	267	232		ug/Kg		87	57 - 144
Benzo[b]fluoranthene	267	234		ug/Kg		88	66 - 141
Benzo[k]fluoranthene	267	248		ug/Kg		93	63 - 150
Benzo[a]pyrene	267	231		ug/Kg		86	60 - 133
Indeno[1,2,3-cd]pyrene	267	196		ug/Kg		74	55 - 142
Dibenz(a,h)anthracene	267	209		ug/Kg		78	60 - 150
Benzo[g,h,i]perylene	267	180		ug/Kg		68	58 - 147

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-18646/2-A
Matrix: Solid
Analysis Batch: 18647

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18646

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	71		23 - 120
2-Fluorobiphenyl (Surr)	81		38 - 123
p-Terphenyl-d14	93		68 - 136

Lab Sample ID: LCSD 590-18646/3-A
Matrix: Solid
Analysis Batch: 18647

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18646

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			267	163		ug/Kg		61	41 - 121	13	35
2-Methylnaphthalene			267	185		ug/Kg		69	39 - 132	9	35
1-Methylnaphthalene			267	211		ug/Kg		79	46 - 131	9	35
Acenaphthylene			267	186		ug/Kg		70	56 - 123	14	35
Acenaphthene			267	192		ug/Kg		72	43 - 140	12	35
Fluorene			267	212		ug/Kg		79	54 - 131	4	35
Phenanthrene			267	209		ug/Kg		78	55 - 141	4	35
Anthracene			267	219		ug/Kg		82	60 - 129	5	35
Fluoranthene			267	213		ug/Kg		80	63 - 141	9	35
Pyrene			267	219		ug/Kg		82	62 - 139	4	35
Benzo[a]anthracene			267	230		ug/Kg		86	61 - 136	5	35
Chrysene			267	238		ug/Kg		89	57 - 144	3	35
Benzo[b]fluoranthene			267	238		ug/Kg		89	66 - 141	2	35
Benzo[k]fluoranthene			267	244		ug/Kg		92	63 - 150	1	35
Benzo[a]pyrene			267	229		ug/Kg		86	60 - 133	1	35
Indeno[1,2,3-cd]pyrene			267	191		ug/Kg		72	55 - 142	3	35
Dibenz(a,h)anthracene			267	204		ug/Kg		76	60 - 150	2	35
Benzo[g,h,i]perylene			267	168		ug/Kg		63	58 - 147	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	71		23 - 120
2-Fluorobiphenyl (Surr)	76		38 - 123
p-Terphenyl-d14	95		68 - 136

Lab Sample ID: 590-9244-1 MS
Matrix: Solid
Analysis Batch: 18647

Client Sample ID: HSP-10C (1-2)
Prep Type: Total/NA
Prep Batch: 18646

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		274	169		ug/Kg	☼	62	41 - 121
2-Methylnaphthalene	ND		274	197		ug/Kg	☼	72	39 - 132
1-Methylnaphthalene	ND		274	225		ug/Kg	☼	82	46 - 131
Acenaphthylene	ND		274	205		ug/Kg	☼	75	56 - 123
Acenaphthene	ND		274	232		ug/Kg	☼	83	43 - 140
Fluorene	ND		274	233		ug/Kg	☼	84	54 - 131
Phenanthrene	32		274	260		ug/Kg	☼	83	55 - 141
Anthracene	ND		274	247		ug/Kg	☼	87	60 - 129
Fluoranthene	56		274	316		ug/Kg	☼	95	63 - 141
Pyrene	52		274	284		ug/Kg	☼	85	62 - 139

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 590-9244-1 MS
Matrix: Solid
Analysis Batch: 18647

Client Sample ID: HSP-10C (1-2)
Prep Type: Total/NA
Prep Batch: 18646

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	26		274	271		ug/Kg	☼	90	61 - 136
Chrysene	30		274	264		ug/Kg	☼	86	57 - 144
Benzo[b]fluoranthene	40		274	304		ug/Kg	☼	97	66 - 141
Benzo[k]fluoranthene	15		274	273		ug/Kg	☼	94	63 - 150
Benzo[a]pyrene	33		274	290		ug/Kg	☼	94	60 - 133
Indeno[1,2,3-cd]pyrene	24		274	216		ug/Kg	☼	70	55 - 142
Dibenz(a,h)anthracene	ND		274	209		ug/Kg	☼	74	60 - 150
Benzo[g,h,i]perylene	31		274	204		ug/Kg	☼	63	58 - 147

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Nitrobenzene-d5	*65*		*23 - 120*
2-Fluorobiphenyl (Surr)	*77*		*38 - 123*
p-Terphenyl-d14	*91*		*68 - 136*

Lab Sample ID: 590-9244-1 MSD
Matrix: Solid
Analysis Batch: 18647

Client Sample ID: HSP-10C (1-2)
Prep Type: Total/NA
Prep Batch: 18646

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		277	178		ug/Kg	☼	64	41 - 121	5	35
2-Methylnaphthalene	ND		277	204		ug/Kg	☼	74	39 - 132	3	35
1-Methylnaphthalene	ND		277	232		ug/Kg	☼	84	46 - 131	3	35
Acenaphthylene	ND		277	188		ug/Kg	☼	68	56 - 123	8	35
Acenaphthene	ND		277	217		ug/Kg	☼	77	43 - 140	6	35
Fluorene	ND		277	211		ug/Kg	☼	75	54 - 131	10	35
Phenanthrene	32		277	240		ug/Kg	☼	75	55 - 141	8	35
Anthracene	ND		277	243		ug/Kg	☼	84	60 - 129	2	35
Fluoranthene	56		277	279		ug/Kg	☼	81	63 - 141	12	35
Pyrene	52		277	279		ug/Kg	☼	82	62 - 139	2	35
Benzo[a]anthracene	26		277	262		ug/Kg	☼	85	61 - 136	3	35
Chrysene	30		277	264		ug/Kg	☼	85	57 - 144	0	35
Benzo[b]fluoranthene	40		277	262		ug/Kg	☼	80	66 - 141	15	35
Benzo[k]fluoranthene	15		277	246		ug/Kg	☼	83	63 - 150	10	35
Benzo[a]pyrene	33		277	260		ug/Kg	☼	82	60 - 133	11	35
Indeno[1,2,3-cd]pyrene	24		277	262		ug/Kg	☼	86	55 - 142	19	35
Dibenz(a,h)anthracene	ND		277	242		ug/Kg	☼	85	60 - 150	15	35
Benzo[g,h,i]perylene	31		277	270		ug/Kg	☼	86	58 - 147	28	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Nitrobenzene-d5	*78*		*23 - 120*
2-Fluorobiphenyl (Surr)	*87*		*38 - 123*
p-Terphenyl-d14	*95*		*68 - 136*

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 590-18665/1-A
Matrix: Solid
Analysis Batch: 18671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18665

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		25		mg/Kg		09/05/18 09:05	09/05/18 10:24	1
Diesel Range Organics (DRO) (C10-C25)	ND		50		mg/Kg		09/05/18 09:05	09/05/18 10:24	1
Residual Range Organics (RRO) (C25-C36)	ND		100		mg/Kg		09/05/18 09:05	09/05/18 10:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*106*		*50 - 150*	*09/05/18 09:05*	*09/05/18 10:24*	*1*
n-Triacontane-d62	*99*		*50 - 150*	*09/05/18 09:05*	*09/05/18 10:24*	*1*

Lab Sample ID: 590-9244-1 DU
Matrix: Solid
Analysis Batch: 18671

Client Sample ID: HSP-10C (1-2)
Prep Type: Total/NA
Prep Batch: 18665

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND			ND		mg/Kg	☼			NC	25
Diesel Range Organics (DRO) (C10-C25)	ND			ND		mg/Kg	☼			NC	25
Residual Range Organics (RRO) (C25-C36)	ND			ND		mg/Kg	☼			NC	25

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*97*		*50 - 150*
n-Triacontane-d62	*93*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-18589/2-A
Matrix: Solid
Analysis Batch: 18644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		08/30/18 10:24	08/31/18 17:43	1
Barium	ND		1.3		mg/Kg		08/30/18 10:24	08/31/18 17:43	1
Cadmium	ND		1.0		mg/Kg		08/30/18 10:24	08/31/18 17:43	1
Chromium	ND		1.3		mg/Kg		08/30/18 10:24	08/31/18 17:43	1
Lead	ND		3.0		mg/Kg		08/30/18 10:24	08/31/18 17:43	1
Selenium	ND		5.0		mg/Kg		08/30/18 10:24	08/31/18 17:43	1
Silver	ND		1.3		mg/Kg		08/30/18 10:24	08/31/18 17:43	1

Lab Sample ID: LCS 590-18589/1-A
Matrix: Solid
Analysis Batch: 18644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18589

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			50.0	48.1		mg/Kg		96	80 - 120		
Barium			50.0	47.8		mg/Kg		96	80 - 120		
Cadmium			50.0	50.2		mg/Kg		100	80 - 120		

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 590-18589/1-A
Matrix: Solid
Analysis Batch: 18644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	50.0	49.4		mg/Kg		99	80 - 120
Lead	50.0	51.9		mg/Kg		104	80 - 120
Selenium	50.0	48.7		mg/Kg		97	80 - 120
Silver	50.0	47.4		mg/Kg		95	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-18590/9-A
Matrix: Solid
Analysis Batch: 18628

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		08/30/18 10:45	08/31/18 10:51	1

Lab Sample ID: LCS 590-18590/8-A
Matrix: Solid
Analysis Batch: 18628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	200		ug/Kg		100	80 - 120

Lab Sample ID: 590-9244-1 MS
Matrix: Solid
Analysis Batch: 18628

Client Sample ID: HSP-10C (1-2)
Prep Type: Total/NA
Prep Batch: 18590

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	37		207	243		ug/Kg	☼	99	80 - 120

Lab Sample ID: 590-9244-1 MSD
Matrix: Solid
Analysis Batch: 18628

Client Sample ID: HSP-10C (1-2)
Prep Type: Total/NA
Prep Batch: 18590

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	37		192	224		ug/Kg	☼	98	80 - 120	8	20

Lab Sample ID: 590-9244-1 DU
Matrix: Solid
Analysis Batch: 18628

Client Sample ID: HSP-10C (1-2)
Prep Type: Total/NA
Prep Batch: 18590

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Hg	37		36.4		ug/Kg	☼	2	20

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Client Sample ID: HSP-10C (1-2)
Date Collected: 08/28/18 10:10
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18603	08/30/18 14:04	CWD	TAL SPK

Client Sample ID: HSP-10C (1-2)
Date Collected: 08/28/18 10:10
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-1
Matrix: Solid
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.15 g	2 mL	18646	09/04/18 09:44	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18647	09/04/18 14:50	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.04 g	20 mL	18665	09/05/18 09:05	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			18671	09/05/18 11:03	NMI	TAL SPK
Total/NA	Prep	3050B			1.22 g	50 mL	18589	08/30/18 10:24	JSP	TAL SPK
Total/NA	Analysis	6010C		2	10 mL	10 mL	18644	08/31/18 18:29	JSP	TAL SPK
Total/NA	Prep	7471B			0.83 g	50 mL	18590	08/30/18 10:45	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18628	08/31/18 10:54	JSP	TAL SPK

Client Sample ID: HSP-11C (1-2)
Date Collected: 08/28/18 10:20
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18603	08/30/18 14:04	CWD	TAL SPK

Client Sample ID: HSP-11C (1-2)
Date Collected: 08/28/18 10:20
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-2
Matrix: Solid
Percent Solids: 94.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.17 g	2 mL	18646	09/04/18 09:44	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18647	09/04/18 15:15	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.34 g	20 mL	18665	09/05/18 09:05	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			18671	09/05/18 11:23	NMI	TAL SPK
Total/NA	Prep	3050B			1.19 g	50 mL	18589	08/30/18 10:24	JSP	TAL SPK
Total/NA	Analysis	6010C		2	10 mL	10 mL	18644	08/31/18 18:33	JSP	TAL SPK
Total/NA	Prep	7471B			0.75 g	50 mL	18590	08/30/18 10:45	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18628	08/31/18 11:03	JSP	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Client Sample ID: HSP-12C (1-2)
Date Collected: 08/28/18 10:30
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18603	08/30/18 14:04	CWD	TAL SPK

Client Sample ID: HSP-12C (1-2)
Date Collected: 08/28/18 10:30
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-3
Matrix: Solid
Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.27 g	2 mL	18646	09/04/18 09:44	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18647	09/04/18 15:40	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.54 g	20 mL	18665	09/05/18 09:05	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			18671	09/05/18 11:43	NMI	TAL SPK
Total/NA	Prep	3050B			1.32 g	50 mL	18589	08/30/18 10:24	JSP	TAL SPK
Total/NA	Analysis	6010C		2	10 mL	10 mL	18644	08/31/18 18:37	JSP	TAL SPK
Total/NA	Prep	7471B			0.77 g	50 mL	18590	08/30/18 10:45	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18628	08/31/18 11:05	JSP	TAL SPK

Client Sample ID: HSP-13C (1-2)
Date Collected: 08/28/18 10:40
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18603	08/30/18 14:04	CWD	TAL SPK

Client Sample ID: HSP-13C (1-2)
Date Collected: 08/28/18 10:40
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-4
Matrix: Solid
Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.70 g	2 mL	18646	09/04/18 09:44	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18647	09/04/18 16:05	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.26 g	20 mL	18665	09/05/18 09:05	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			18671	09/05/18 12:02	NMI	TAL SPK
Total/NA	Prep	3050B			1.32 g	50 mL	18589	08/30/18 10:24	JSP	TAL SPK
Total/NA	Analysis	6010C		2	10 mL	10 mL	18644	08/31/18 18:40	JSP	TAL SPK
Total/NA	Prep	7471B			0.85 g	50 mL	18590	08/30/18 10:45	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18628	08/31/18 11:07	JSP	TAL SPK

Client Sample ID: HSP-14C (1-2)
Date Collected: 08/28/18 10:50
Date Received: 08/28/18 16:05

Lab Sample ID: 590-9244-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18603	08/30/18 14:04	CWD	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Client Sample ID: HSP-14C (1-2)

Lab Sample ID: 590-9244-5
Date Collected: 08/28/18 10:50
Matrix: Solid
Date Received: 08/28/18 16:05
Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.38 g	2 mL	18646	09/04/18 09:44	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18647	09/04/18 16:29	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.75 g	20 mL	18665	09/05/18 09:05	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			18671	09/05/18 12:22	NMI	TAL SPK
Total/NA	Prep	3050B			1.40 g	50 mL	18589	08/30/18 10:24	JSP	TAL SPK
Total/NA	Analysis	6010C		2	10 mL	10 mL	18644	08/31/18 18:54	JSP	TAL SPK
Total/NA	Prep	7471B			0.87 g	50 mL	18590	08/30/18 10:45	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18628	08/31/18 11:10	JSP	TAL SPK

Client Sample ID: DUP- 082818

Lab Sample ID: 590-9244-6
Date Collected: 08/28/18 08:00
Matrix: Solid
Date Received: 08/28/18 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			18603	08/30/18 14:04	CWD	TAL SPK

Client Sample ID: DUP- 082818

Lab Sample ID: 590-9244-6
Date Collected: 08/28/18 08:00
Matrix: Solid
Date Received: 08/28/18 16:05
Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.16 g	2 mL	18646	09/04/18 09:44	MO	TAL SPK
Total/NA	Analysis	8270D SIM		1			18647	09/04/18 16:54	NMI	TAL SPK
Total/NA	Prep	NWTPH-HCID			10.18 g	20 mL	18665	09/05/18 09:05	MO	TAL SPK
Total/NA	Analysis	NWTPH-HCID		1			18671	09/05/18 12:42	NMI	TAL SPK
Total/NA	Prep	3050B			1.24 g	50 mL	18589	08/30/18 10:24	JSP	TAL SPK
Total/NA	Analysis	6010C		2	10 mL	10 mL	18644	08/31/18 18:58	JSP	TAL SPK
Total/NA	Prep	7471B			0.73 g	50 mL	18590	08/30/18 10:45	JSP	TAL SPK
Total/NA	Analysis	7471B		1			18628	08/31/18 11:16	JSP	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Laboratory: TestAmerica Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-025	12-07-18
Nevada	State Program	9	WA012202019-1	07-31-19
Oregon	NELAP	10	4137	12-07-18
Washington	State Program	10	C569	01-06-19

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9244-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-HCID	Northwest - Hydrocarbon Identification (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK
NWTPH-HCID	Solvent Extraction	NWTPH	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

590-9244 Chain of Custody

E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290 [X]
Jimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 [ ]
Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210 [ ]

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: GeoEngineers

REPORT TO: jmugalski@geoengineers.com

ADDRESS: 523 E Second Ave Spokane, WA 99202

PHONE: 509-363-3125 FAX:

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Riverfront Park

PROJECT NUMBER: 0110-148-06

SAMPLED BY: JML

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [10] STD. [7] [5] [4] [3] [2] [1] [<1]

Petroleum Hydrocarbon Analyses: [5] STD. [4] [3] [2] [1] [<1]

[OTHER] Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: PAHs 8270 SIM	REQUESTED ANALYSES: PCBA 8 Aroclors	REQUESTED ANALYSES: HCID	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	HSP-10C(1-2)	8/28/2018 1010		X	X	X	S	2		
2	HSP-11C(1-2)	1020		X	X	X				
3	HSP-12C(1-2)	1030		X	X	X				
4	HSP-13C(1-2)	1040		X	X	X				
5	HSP-14C(1-2)	1050		X	X	X				
6	DUP-082818	0800		X	X	X				
7										
8										
9										
10										

RELEASED BY: [signature] PRINT NAME: Josh Lee FIRM: GEI DATE: 8/28/18 TIME: 1605

RECEIVED BY: [signature] PRINT NAME: Sheila Krats FIRM: TASPO DATE: 8/28/18 TIME: 1605

RELEASED BY: PRINT NAME: FIRM: DATE: TIME:

RECEIVED BY: PRINT NAME: FIRM: DATE: TIME:

ADDITIONAL REMARKS:

TEMP: 3.0 °C PAGE 1 OF 1

IR001000 (0714)

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-9244-1

Login Number: 9244
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

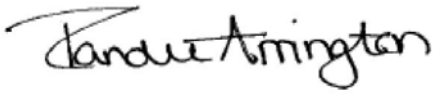
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-9456-1
Client Project/Site: Riverfront Park (0110-148-06)

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: JR Sugalski



Authorized for release by:
10/5/2018 9:41:55 AM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9456-1

Job ID: 590-9456-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The sample was received on 9/24/2018 12:50 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9456-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-9456-1	HSP-15C (7)	Solid	09/19/18 09:28	09/24/18 12:50

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9456-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: HSP-15C (7)

Date Collected: 09/19/18 09:28
Date Received: 09/24/18 12:50

Lab Sample ID: 590-9456-1

Matrix: Solid
Percent Solids: 94.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.12		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
Benzene	ND		0.025		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
Ethylbenzene	ND		0.12		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
m,p-Xylene	ND		0.49		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
Naphthalene	ND		0.25		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
n-Butylbenzene	ND		0.12		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
N-Propylbenzene	ND		0.12		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
o-Xylene	ND		0.25		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
Toluene	ND		0.12		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1
Xylenes, Total	ND		0.74		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 120*	*09/25/18 16:03*	*09/25/18 20:53*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 122*	*09/25/18 16:03*	*09/25/18 20:53*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*09/25/18 16:03*	*09/25/18 20:53*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*	*09/25/18 16:03*	*09/25/18 20:53*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.2		mg/Kg	☼	09/25/18 16:03	09/25/18 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41.5 - 162*	*09/25/18 16:03*	*09/25/18 20:53*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
2-Methylnaphthalene	ND		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
1-Methylnaphthalene	ND		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Acenaphthylene	**13**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Acenaphthene	ND		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Fluorene	ND		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Phenanthrene	**66**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Anthracene	**30**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Fluoranthene	**130**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Pyrene	**150**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Benzo[a]anthracene	**67**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Chrysene	**80**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Benzo[b]fluoranthene	**92**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Benzo[k]fluoranthene	**37**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Benzo[a]pyrene	**85**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Indeno[1,2,3-cd]pyrene	**46**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Dibenz(a,h)anthracene	**13**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1
Benzo[g,h,i]perylene	**60**		10		ug/Kg	☼	10/03/18 10:40	10/03/18 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*83*		*23 - 120*	*10/03/18 10:40*	*10/03/18 23:46*	*1*
2-Fluorobiphenyl (Surr)	*84*		*38 - 123*	*10/03/18 10:40*	*10/03/18 23:46*	*1*
p-Terphenyl-d14	*101*		*68 - 136*	*10/03/18 10:40*	*10/03/18 23:46*	*1*

Client Sample Results

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9456-1

Client Sample ID: HSP-15C (7)
Date Collected: 09/19/18 09:28
Date Received: 09/24/18 12:50

Lab Sample ID: 590-9456-1
Matrix: Solid
Percent Solids: 94.1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	31		10		mg/Kg	☼	09/30/18 10:03	10/01/18 03:43	1
Residual Range Organics (RRO) (C25-C36)	230		26		mg/Kg	☼	09/30/18 10:03	10/01/18 03:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*09/30/18 10:03*	*10/01/18 03:43*	*1*
n-Triacontane-d62	*94*		*50 - 150*	*09/30/18 10:03*	*10/01/18 03:43*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		0.96		mg/Kg	☼	09/24/18 15:51	09/26/18 13:14	1
Barium	56		0.96		mg/Kg	☼	09/24/18 15:51	09/26/18 13:14	1
Cadmium	ND		0.77		mg/Kg	☼	09/24/18 15:51	09/26/18 13:14	1
Chromium	9.5		0.96		mg/Kg	☼	09/24/18 15:51	09/26/18 13:14	1
Lead	53		2.3		mg/Kg	☼	09/24/18 15:51	09/26/18 13:14	1
Selenium	ND		3.9		mg/Kg	☼	09/24/18 15:51	09/26/18 13:14	1
Silver	ND		0.96		mg/Kg	☼	09/24/18 15:51	09/26/18 13:14	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	60		23		ug/Kg	☼	09/26/18 11:05	09/26/18 16:27	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-19048/1-A
Matrix: Solid
Analysis Batch: 19058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19048

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
Benzene	ND		0.020		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
Ethylbenzene	ND		0.10		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
m,p-Xylene	ND		0.40		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
Naphthalene	ND		0.20		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
n-Butylbenzene	ND		0.10		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
N-Propylbenzene	ND		0.10		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
o-Xylene	ND		0.20		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
Toluene	ND		0.10		mg/Kg		09/25/18 16:01	09/25/18 17:45	1
Xylenes, Total	ND		0.60		mg/Kg		09/25/18 16:01	09/25/18 17:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 120*	*09/25/18 16:01*	*09/25/18 17:45*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 122*	*09/25/18 16:01*	*09/25/18 17:45*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*09/25/18 16:01*	*09/25/18 17:45*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*	*09/25/18 16:01*	*09/25/18 17:45*	*1*

Lab Sample ID: LCS 590-19048/2-A
Matrix: Solid
Analysis Batch: 19058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19048

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	0.500	0.607		mg/Kg		121	68 - 132
Benzene	0.500	0.542		mg/Kg		108	76 - 123
Ethylbenzene	0.500	0.576		mg/Kg		115	77 - 121
m,p-Xylene	0.500	0.571		mg/Kg		114	78 - 124
Naphthalene	0.500	0.447		mg/Kg		89	55 - 128
n-Butylbenzene	0.500	0.585		mg/Kg		117	67 - 131
N-Propylbenzene	0.500	0.617		mg/Kg		123	67 - 131
o-Xylene	0.500	0.587		mg/Kg		117	77 - 129
Toluene	0.500	0.578		mg/Kg		116	77 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 120*
4-Bromofluorobenzene (Surr)	*106*		*76 - 122*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Lab Sample ID: MB 590-19048/1-A
Matrix: Solid
Analysis Batch: 19059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19048

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/25/18 16:01	09/25/18 17:45	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS) (Continued)

Lab Sample ID: MB 590-19048/1-A
Matrix: Solid
Analysis Batch: 19059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19048

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		41.5 - 162	09/25/18 16:01	09/25/18 17:45	1

Lab Sample ID: LCS 590-19048/3-A
Matrix: Solid
Analysis Batch: 19059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19048

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			50.0	50.9		mg/Kg		102	74.4 - 124		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		41.5 - 162

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-19192/1-A
Matrix: Solid
Analysis Batch: 19190

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19192

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
2-Methylnaphthalene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
1-Methylnaphthalene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Acenaphthylene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Acenaphthene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Fluorene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Phenanthrene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Anthracene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Fluoranthene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Pyrene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Benzo[a]anthracene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Chrysene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Benzo[b]fluoranthene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Benzo[k]fluoranthene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Benzo[a]pyrene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		10/03/18 10:40	10/03/18 17:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	92		23 - 120	10/03/18 10:40	10/03/18 17:09	1
2-Fluorobiphenyl (Surr)	92		38 - 123	10/03/18 10:40	10/03/18 17:09	1
p-Terphenyl-d14	107		68 - 136	10/03/18 10:40	10/03/18 17:09	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-19192/2-A
Matrix: Solid
Analysis Batch: 19190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19192

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene			267	203		ug/Kg		76	41 - 121		
2-Methylnaphthalene			267	205		ug/Kg		77	39 - 132		
1-Methylnaphthalene			267	228		ug/Kg		85	46 - 131		
Acenaphthylene			267	206		ug/Kg		77	56 - 123		
Acenaphthene			267	206		ug/Kg		77	43 - 140		
Fluorene			267	194		ug/Kg		73	54 - 131		
Phenanthrene			267	204		ug/Kg		77	55 - 141		
Anthracene			267	265		ug/Kg		99	60 - 129		
Fluoranthene			267	214		ug/Kg		80	63 - 141		
Pyrene			267	220		ug/Kg		82	62 - 139		
Benzo[a]anthracene			267	214		ug/Kg		80	61 - 136		
Chrysene			267	218		ug/Kg		82	57 - 144		
Benzo[b]fluoranthene			267	212		ug/Kg		79	66 - 141		
Benzo[k]fluoranthene			267	213		ug/Kg		80	63 - 150		
Benzo[a]pyrene			267	218		ug/Kg		82	60 - 133		
Indeno[1,2,3-cd]pyrene			267	217		ug/Kg		81	55 - 142		
Dibenz(a,h)anthracene			267	217		ug/Kg		81	60 - 150		
Benzo[g,h,i]perylene			267	218		ug/Kg		82	58 - 147		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*94*		*23 - 120*
2-Fluorobiphenyl (Surr)	*97*		*38 - 123*
p-Terphenyl-d14	*105*		*68 - 136*

Lab Sample ID: LCSD 590-19192/3-A
Matrix: Solid
Analysis Batch: 19190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19192

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			267	194		ug/Kg		73	41 - 121	5	35
2-Methylnaphthalene			267	187		ug/Kg		70	39 - 132	9	35
1-Methylnaphthalene			267	199		ug/Kg		75	46 - 131	14	35
Acenaphthylene			267	203		ug/Kg		76	56 - 123	2	35
Acenaphthene			267	208		ug/Kg		78	43 - 140	1	35
Fluorene			267	196		ug/Kg		74	54 - 131	1	35
Phenanthrene			267	198		ug/Kg		74	55 - 141	3	35
Anthracene			267	262		ug/Kg		98	60 - 129	1	35
Fluoranthene			267	207		ug/Kg		78	63 - 141	3	35
Pyrene			267	215		ug/Kg		81	62 - 139	2	35
Benzo[a]anthracene			267	209		ug/Kg		78	61 - 136	2	35
Chrysene			267	213		ug/Kg		80	57 - 144	2	35
Benzo[b]fluoranthene			267	211		ug/Kg		79	66 - 141	0	35
Benzo[k]fluoranthene			267	217		ug/Kg		81	63 - 150	2	35
Benzo[a]pyrene			267	215		ug/Kg		81	60 - 133	1	35
Indeno[1,2,3-cd]pyrene			267	214		ug/Kg		80	55 - 142	1	35
Dibenz(a,h)anthracene			267	211		ug/Kg		79	60 - 150	3	35
Benzo[g,h,i]perylene			267	216		ug/Kg		81	58 - 147	1	35

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 590-19192/3-A
Matrix: Solid
Analysis Batch: 19190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19192

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*88*		*23 - 120*
2-Fluorobiphenyl (Surr)	*96*		*38 - 123*
p-Terphenyl-d14	*100*		*68 - 136*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 590-19132/1-A
Matrix: Solid
Analysis Batch: 19131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg		09/30/18 10:03	09/30/18 23:34	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg		09/30/18 10:03	09/30/18 23:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*09/30/18 10:03*	*09/30/18 23:34*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*09/30/18 10:03*	*09/30/18 23:34*	*1*

Lab Sample ID: LCS 590-19132/2-A
Matrix: Solid
Analysis Batch: 19131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	66.7	57.7		mg/Kg		86	50 - 150
Residual Range Organics (RRO) (C25-C36)	66.7	65.6		mg/Kg		98	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*97*		*50 - 150*
n-Triacontane-d62	*88*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-19029/2-A
Matrix: Solid
Analysis Batch: 19063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.3		mg/Kg		09/24/18 15:51	09/26/18 11:15	1
Barium	ND		1.3		mg/Kg		09/24/18 15:51	09/26/18 11:15	1
Cadmium	ND		1.0		mg/Kg		09/24/18 15:51	09/26/18 11:15	1
Chromium	ND		1.3		mg/Kg		09/24/18 15:51	09/26/18 11:15	1
Lead	ND		3.0		mg/Kg		09/24/18 15:51	09/26/18 11:15	1
Selenium	ND		5.0		mg/Kg		09/24/18 15:51	09/26/18 11:15	1
Silver	ND		1.3		mg/Kg		09/24/18 15:51	09/26/18 11:15	1

Lab Sample ID: LCS 590-19029/1-A
Matrix: Solid
Analysis Batch: 19063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	47.4		mg/Kg		95	80 - 120
Barium	50.0	48.7		mg/Kg		97	80 - 120
Cadmium	50.0	48.8		mg/Kg		98	80 - 120
Chromium	50.0	48.6		mg/Kg		97	80 - 120
Lead	50.0	50.7		mg/Kg		101	80 - 120
Selenium	50.0	47.5		mg/Kg		95	80 - 120
Silver	50.0	47.0		mg/Kg		94	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 590-19056/9-A
Matrix: Solid
Analysis Batch: 19074

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		50		ug/Kg		09/26/18 11:05	09/26/18 15:41	1

Lab Sample ID: LCS 590-19056/8-A
Matrix: Solid
Analysis Batch: 19074

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	200	229		ug/Kg		115	80 - 120

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9456-1

Client Sample ID: HSP-15C (7)

Lab Sample ID: 590-9456-1

Date Collected: 09/19/18 09:28

Matrix: Solid

Date Received: 09/24/18 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			19024	09/24/18 14:51	NMI	TAL SPK

Client Sample ID: HSP-15C (7)

Lab Sample ID: 590-9456-1

Date Collected: 09/19/18 09:28

Matrix: Solid

Date Received: 09/24/18 12:50

Percent Solids: 94.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.53 g	5 mL	19048	09/25/18 16:03	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	19058	09/25/18 20:53	MRS	TAL SPK
Total/NA	Prep	5035			4.53 g	5 mL	19048	09/25/18 16:03	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	19059	09/25/18 20:53	MRS	TAL SPK
Total/NA	Prep	3550C			15.76 g	2 mL	19192	10/03/18 10:40	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			19190	10/03/18 23:46	NMI	TAL SPK
Total/NA	Prep	3550C			15.31 g	5 mL	19132	09/30/18 10:03	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			19131	10/01/18 03:43	NMI	TAL SPK
Total/NA	Prep	3050B			1.38 g	50 mL	19029	09/24/18 15:51	JSP	TAL SPK
Total/NA	Analysis	6010C		1			19063	09/26/18 13:14	JSP	TAL SPK
Total/NA	Prep	7471B			1.17 g	50 mL	19056	09/26/18 11:05	JSP	TAL SPK
Total/NA	Analysis	7471B		1			19074	09/26/18 16:27	JSP	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9456-1

Laboratory: TestAmerica Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-025	12-07-18
Nevada	State Program	9	WA012202019-1	07-31-19
Oregon	NELAP	10	4137	12-07-18
Washington	State Program	10	C569	01-06-19

Method Summary

Client: GeoEngineers Inc
Project/Site: Riverfront Park (0110-148-06)

TestAmerica Job ID: 590-9456-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
7471B	Mercury (CVAA)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
5035	Closed System Purge and Trap	SW846	TAL SPK
7471B	Preparation, Mercury	SW846	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency
NWTPH = Northwest Total Petroleum Hydrocarbon
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

CHAIN OF CUSTODY RECORD

GeoEngineers
523 EAST SECOND AVE.
SPOKANE, WASHINGTON 99202
(509) 363-3125

DATE 9/19/18
PAGE OF
LAB
LAB NO.

PROJECT NAME/LOCATION Riverfront Park
PROJECT NUMBER 0110-148-06
PROJECT MANAGER JR Sugalski
SAMPLED BY JR Sugalski

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED					NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	RCRA 8	PAHs 8270 SIM	GX	DX		(Preserved, filtered, etc.)
	HSP-15C(7)	9/19/18	0928	Soil	3	X	X	X	X		Std. TAT

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GEI	SIGNATURE		SIGNATURE	
PRINTED NAME Jedidiah Sugalski		PRINTED NAME		PRINTED NAME	
DATE 9/21/18 TIME 1248		DATE TIME		DATE TIME	
RECEIVED BY	**FIRM**	**RECEIVED BY**	**FIRM**	**RECEIVED BY**	**FIRM**
SIGNATURE	TA-SPO	SIGNATURE		SIGNATURE	
PRINTED NAME Matt Suda		PRINTED NAME		PRINTED NAME	
DATE 9.24.18 TIME 1250		DATE TIME		DATE TIME	

ADDITIONAL COMMENTS: 2.6°C (IR004)

590-9456 Chain of Custody

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-9456-1

Login Number: 9456
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

APPENDIX B
Soil Disposal Tickets

Graham Road Facility
1820 S. Graham Road
Medical Lake, WA, 99022

Ph: (509)244-0151

Original
Ticket# 576019

Customer Name GARCOCONS GARCO CONSTRUC
Ticket Date 09/26/2018
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 113796WA
Profile 113796WA (LF01 - Diesel Fuel Impacted Soil and/or Debris Cleanup)
Generator WA-RIVERFRONT PARK SPOKANE RIVERFRONT PARK 610 W SPOKANE FALLS BLVD SPOKANE
PO# 1721

Carrier GARCO GARCO CONST.
Vehicle# TODD
Container
Driver
Check#
Billing# 0000063
Grid

	Time	Scale	Operator	Inbound		
In	09/26/2018 09:25:23	Scale1	rlabrec1		Gross	58340 lb
Out	09/26/2018 09:38:27	Scale1	rlabrec1		Tare	23880 lb
					Net	34460 lb
					Tons	17.23

Comments

	Product	LD%	Qty	UOM	Rate	Tax/Fee	Amount	Origin
1	Spwaste Solid Oth-Tons-S	100	17.23	Tons	34.00	21.09	$585.82	SPOKANE
2	SRHD1-Spokane Regional H	100	17.23	Tons	0.32	0.20	$5.51	SPOKANE
3	FEA-FUEL ENVIRONMENTAL A	100	17.23	Tons	5.95	3.69	$102.52	SPOKANE

Total Tax/Fees $24.98
Total Ticket $718.83

Driver's Signature TODD

The total amount includes fees and taxes that may not all be listed on this ticket due to technical limitation.

1721
CONTAMINATED MATERIAL FROM PAVILION
UNFORESEEN CONDITIONS

GeoEngineers