



July 31, 2018

Ms. Olivia Yu/Mr. Christina Hernandez
New Mexico Oil Conservation Division – District 1
1625 N. French Drive
Hobbs, NM 88240

**RE: Release Remediation Work Plan
HT 18 Federal #1 Facility
Lea County, New Mexico**

Please note that delineation for **1RP-5084** is still incomplete. NMOCD approves the proposed remediation for **1RP-5084**, however, please be advised that completion of delineation, while remediating, is considered conducted at-risk. Approval is also conditional based on the following:
1) Please be advised to excavate S3 to 4' bgs. 2) Bottom and sidewall confirmation samples from all sample locations at no greater than 50 ft. intervals. 3) At least one confirmation sidewall/edge sample location must be at the border between each different depth of excavation, for example between S-4 (2' excavation) and SP3 (4' excavation). 4) BTEX, TPH extended, and chlorides laboratory analyses for all confirmation samples. 5) Marked confirmation sample locations in relation to delineation sample locations on a scaled map.
6) Dated photo documentation of the remediation process.

APPROVED

By CHernandez at 12:12 pm, Aug 28, 2018

Ms. Yu/Ms. Hernandez:

WSP USA, Inc. (WSP) was engaged by Percussion Petroleum, LLC (Percussion) to perform soil assessment and remediation services at the HT 18 Federal #1 facility in Lea County, New Mexico (Figure 1). WSP's preliminary soil assessment results and proposed remediation activities consist of the following:

INCIDENT DESCRIPTION

On May 22, 2018 approximately 100 barrels of oil and produced water was released from the HT 18 battery and approximately 40 barrels was recovered. The two produced water tanks were struck by lightning and the facility burned to the ground. The incident was reported to the Ms. Olivia Yu at 9:15 AM Mountain Standard Time on May 22, 2018.

ACTION TAKEN

Percussion's initial response included utilizing a vacuum truck to remove free fluids. On May 24, 2018 WSP staff collected soil samples from the impacted area to preliminarily delineate the vertical and horizontal extent of the spill. Soil samples were collected utilizing a decontaminated hand auger and gloved hands. Soil was placed in clean jars supplied by the laboratory, placed in a cooler on ice and shipped to ALS Laboratory in Houston, Texas for analysis for total petroleum hydrocarbons (TPH) Gasoline Range Organics (GRO), TPH Diesel Range Organics (DRO), TPH Oil Range Organics (ORO), benzene, toluene, ethylbenzene, and total xylenes (BTEX) and chlorides. Based on the site ranking criteria and corresponding action levels, WSP identified elevated levels of

WSP USA
2777 N. Stemmons Freeway
Suite 1600
Dallas, TX 75207

T +1-214-583-3400

wsp.com

TPH and chlorides at three locations. The analytical results have been summarized in the attached Table 1 and the attached Figure 2 identifies the sample locations.

BACKGROUND INFORMATION

The HT 18 facility is located 3.5 miles southwest of Maljamar, New Mexico. The legal location for the site is Section 18, Township 17S, Range 32E in Lea County, New Mexico. The attached Figure 1 depicts the facility's location.

According to the United States Department of Agricultural, Natural Resource Conservation Service, Web Soil Survey, the soil in the vicinity of the facility is Kermit-Palomias fine sands, 0 to 12 percent slopes. Kermit-Palomias soils are described as fine sands to a depth of greater than 60 inches. The New Mexico State Engineer's office identified the nearest water well, with groundwater depth information available, to be located in Section 10, Township 17S, Range 32E, 3.8 miles to the northeast of the HT 18 facility. The depth to groundwater was identified at 132 feet below ground surface (bgs). The referenced groundwater data has been included in the appendix.

WSP utilized the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Spills, Leaks and Releases (1993) in preparing this work plan. Based on the site inspection the impacts would be classified as Unsaturated Contaminated Soils. Following the ranking criteria in the Guide, WSP identified the facility with a depth to ground water of 100 feet, well head protection area greater than 1,000 feet from a water source and greater than 200 feet from a private domestic water source, and greater than 1,000 feet to a surface body of water. The total score for the facility is 0, the correlating action levels for this ranking score are 10 parts per million (ppm) for benzene, 50 ppm for benzene, toluene, ethylbenzene, and total xylenes, and 5,000 ppm for TPH. A chloride level of 600 ppm was used as an action level.

SUMMARY and CONCLUSIONS

According to the New Mexico State Engineer's Database groundwater is located deeper than 100 feet bgs. Preliminary soil sampling results documented TPH and chloride impacts extending to approximately 1 foot to 3 feet bgs. Based on the depth to groundwater and contamination levels detected in the soil, it is unlikely that the impacts will pose a threat to groundwater resources after the proposed remedial actions are complete. In response to the NMOCD's request for a work plan to be submitted, the following remedial activities are proposed:

PROPOSED REMEDIAL ACTIONS

- Remove the remains of the battery tanks and containment.
- Chloride impacted soils will be excavated to a depth of approximately 2 feet bgs;
- TPH and BTEX impacted soils will be treated with a 3 percent solution of Micro Blaze and tilled into the soil. Figure 3 shows the proposed post-remediation sample points;
- Per the 1993 Sampling Guidelines, Section III B. Percussion proposes to determine the final soil contaminant concentrations after remediation;

- A final report documenting all field activities and lab reports from the confirmation sampling will be provided to the NMOCD Hobbs Office demonstrating that all remedial requirements have been achieved.

If you have any questions or require additional information concerning the proposed plan of action, please contact me at (214) 561-7424 or (817) 713-0262.

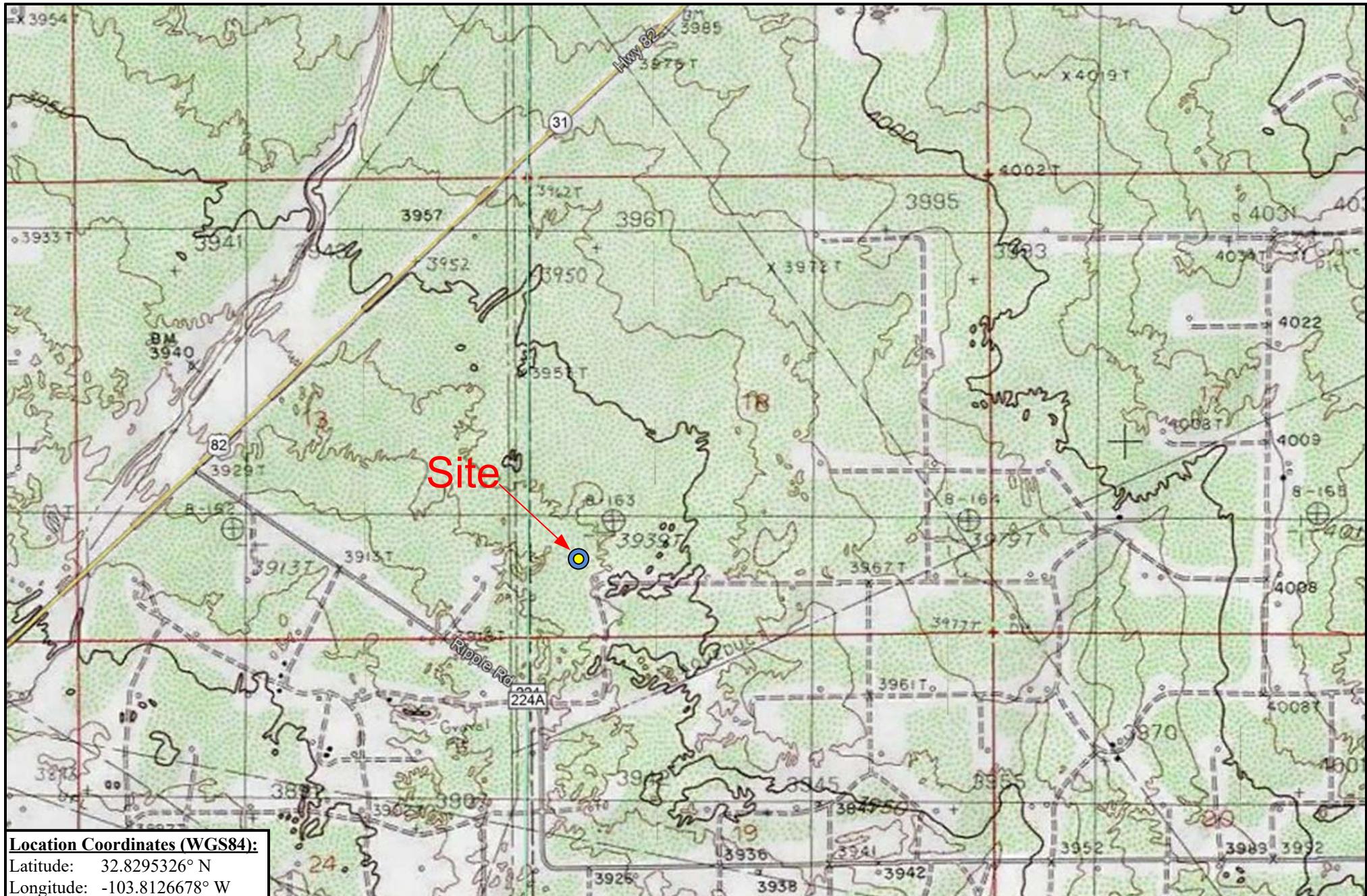
Sincerely,



Matthew Boyle
Sr. Environmental Scientist



Charles D. Harlan, P.G.
Director, Business Development – Water & Environment
TX/Mountain Region



Percussion Petroleum
HT 18 Federal #1
Eddy County, New Mexico

Legend:
● - Site Location

(Source): Google Earth



WSP

Site Location Map

WSP Project#: 31401117.005

7/25/2018

Figure 1



Location Coordinates (WGS84):

Latitude: 32.8295326° N

Longitude: -103.8126678° W

Legend:



Impacted Area
Sample Location



WSP

Sample Location Map

WSP Project#: 31401117.005

7/25/2018

Figure 2

Percussion Petroleum
HT 18 Federal #1
Eddy County, New Mexico



Location Coordinates (WGS84):

Latitude: 32.8295326° N
Longitude: -103.8126678° W

Legend:



Impacted Area
Sample Location

Percussion Petroleum
HT 18 Federal #1
Eddy County, New Mexico



WSP

Post Remediation Proposed Sample Location Map

WSP Project#: 31401117.005

7/25/2018

Figure 3

Table 1
Summary of Soil Sample Analytical Results

Sample ID	Sample Depth	Sample Date	Parameter								
			Chloride mg/kg	TPH-GRO	TPH-DRO	TPH-ORO	Total TPH mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Total Xylene mg/kg
CAS Number		16887-00-6	PHC612	PHCG1028	PHCG2835	PHC635	71-43-2	108-88-3	100-41-4	1330-20-7	
NMOCD		600	1000			10				50	
S-1	1'	5/24/2018	51.1	0.44	120	390	510	0.081	0.098	0.031	0.027
S-1	2'	5/24/2018	1,210	0.41	13	46	59	u	u	0.046	0.033
S-1	3'	5/24/2018	597	0.08	150	290	440	0.014	0.029	0.0093	0.014
S-2	1'	5/24/2018	28.7	0.14	u	12	12	0.010	0.039	0.020	0.030
S-2	2'	5/24/2018	88.4	u	u	8	8	u	u	0.0062	u
S-2	3'	5/24/2018	109	0.24	u	10	10	0.088	0.180	0.038	0.071
S-3	1'	5/24/2018	1740	u	20	40	60	u	0.0094	u	u
S-3	2'	5/24/2018	152	0.27	u	u	0	0.100	0.190	0.037	0.076
S-3	3'	5/24/2018	30	u	4100	4400	8500	u	u	u	u
S-4	1'	5/24/2018	2030	0.30	6	18	25	u	u	0.023	u
S-4	2'	5/24/2018	1490	0.06	190	450	640	u	u	0.024	0.031
S-4	3'	5/24/2018	48.2	0.25	u	6.80	7	0.093	0.006	u	0.051

U - Not Detected - less than Standard Detection Limit

"Action Levels" represents the NMOCD Action Levels which the BLM utilizes

Bold numbers exhibit concentrations above the RRC PCL.



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
 (quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L 13050	POD1	2	2	1	10	17S	32E	616463	3635945*

x Driller License: 79 Driller Company: ALDREDGE, D.O.

Driller Name: ALDREDGE, C.O.

Drill Start Date: 12/23/1961 Drill Finish Date: 01/01/1962 Plug Date:

Log File Date: 01/18/1962 PCW Rcv Date: Source: Shallow

Pump Type: Pipe Discharge Size: Estimated Yield:

Casing Size: 7.00 Depth Well: 156 feet Depth Water: 132 feet

x Water Bearing Stratifications: Top Bottom Description
132 156 Other/Unknown

x Casing Perforations: Top Bottom
136 156

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/31/18 9:07 AM

POINT OF DIVERSION SUMMARY

Lea County, New Mexico

KD—Kermit-Palomas fine sands, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: dmpv

Elevation: 3,000 to 4,400 feet

Mean annual precipitation: 10 to 12 inches

Mean annual air temperature: 60 to 62 degrees F

Frost-free period: 190 to 205 days

Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 70 percent

Palomas and similar soils: 20 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit

Setting

Landform: Dunes

Landform position (two-dimensional): Shoulder, backslope, footslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear, concave

Across-slope shape: Convex

Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand

C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 3 to 12 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e



Hydrologic Soil Group: A
Ecological site: Deep Sand (R042XC005NM)
Hydric soil rating: No

Description of Palomas

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex
Parent material: Alluvium derived from sandstone

Typical profile

A - 0 to 16 inches: fine sand
Bt - 16 to 60 inches: sandy clay loam
Bk - 60 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 50 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components

Pyote

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Maljamar

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)



Hydric soil rating: No

Palomas

Percent of map unit: 1 percent

Ecological site: Loamy Sand (R042XC003NM)

Hydric soil rating: No

Dune land

Percent of map unit: 1 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 14, Sep 10, 2017





10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 06, 2018

Matthew Boyle
WSP Parsons Brinckerhoff
15305 N. Dallas Parkway
Suite 300
Addison, TX 75001

Work Order: **HS18051337**

Laboratory Results for: **HT 18 Fed #1**

Dear Matthew,

ALS Environmental received 12 sample(s) on May 26, 2018 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink that reads "Bernadette Fini".

Generated By: JUMOKE.LAWAL

Bernadette A. Fini
Project Manager

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
Work Order: HS18051337

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS18051337-01	S-1 1'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-02	S-1 2'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-03	S-1 3'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-04	S-2 1'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-05	S-2 2'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-06	S-2 3'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-07	S-3 1'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-08	S-3 2'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-09	S-3 3'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-10	S-4 1'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-11	S-4 2'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>
HS18051337-12	S-4 3'	Soil		24-May-2018 00:00	26-May-2018 09:30	<input type="checkbox"/>

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
Work Order: HS18051337

CASE NARRATIVE**GC Semivolatiles by Method SW8015M****Batch ID: 129017****Sample ID: S-1 2' (HS18051337-02MS)**

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: S-1 2' (HS18051337-02MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GC Volatiles by Method SW8015**Batch ID: R317297**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260**Batch ID: R317277**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R317222**Sample ID: HS18051333-03MS**

- MS and MSD are for an unrelated sample

Batch ID: R317115**Sample ID: HS18051333-05MS**

- MS and MSD are for an unrelated sample

WetChemistry by Method E300**Batch ID: 129028**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-1 1'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-01
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	0.081		0.0048	mg/Kg	1	31-May-2018 04:30	
Ethylbenzene	0.031		0.0048	mg/Kg	1	31-May-2018 04:30	
m,p-Xylene	0.018		0.0097	mg/Kg	1	31-May-2018 04:30	
o-Xylene	0.0088		0.0048	mg/Kg	1	31-May-2018 04:30	
Toluene	0.098		0.0048	mg/Kg	1	31-May-2018 04:30	
Xylenes, Total	0.027		0.0048	mg/Kg	1	31-May-2018 04:30	
Surr: 1,2-Dichloroethane-d4	99.6		70-126	%REC	1	31-May-2018 04:30	
Surr: 4-Bromofluorobenzene	88.7		70-130	%REC	1	31-May-2018 04:30	
Surr: Dibromofluoromethane	98.7		70-130	%REC	1	31-May-2018 04:30	
Surr: Toluene-d8	110		70-130	%REC	1	31-May-2018 04:30	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.44		0.050	mg/Kg	1	01-Jun-2018 15:53	
Surr: 4-Bromofluorobenzene	98.2		70-123	%REC	1	01-Jun-2018 15:53	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	120		17	mg/Kg	10	05-Jun-2018 05:58	
TPH (Motor Oil Range)	390	n	34	mg/Kg	10	05-Jun-2018 05:58	
Surr: 2-Fluorobiphenyl	88.0		60-129	%REC	10	05-Jun-2018 05:58	
ANIONS BY E300.0		Method:E300					
Chloride	51.1		4.99	mg/Kg	1	02-Jun-2018 02:56	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-1 2'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-02
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	ND		0.0048	mg/Kg	1	31-May-2018 04:58	
Ethylbenzene	0.046		0.0048	mg/Kg	1	31-May-2018 04:58	
m,p-Xylene	0.029		0.0097	mg/Kg	1	31-May-2018 04:58	
o-Xylene	ND		0.0048	mg/Kg	1	31-May-2018 04:58	
Toluene	ND		0.0048	mg/Kg	1	31-May-2018 04:58	
Xylenes, Total	0.033		0.0048	mg/Kg	1	31-May-2018 04:58	
Surr: 1,2-Dichloroethane-d4	102		70-126	%REC	1	31-May-2018 04:58	
Surr: 4-Bromofluorobenzene	96.5		70-130	%REC	1	31-May-2018 04:58	
Surr: Dibromofluoromethane	104		70-130	%REC	1	31-May-2018 04:58	
Surr: Toluene-d8	99.4		70-130	%REC	1	31-May-2018 04:58	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.41		0.050	mg/Kg	1	01-Jun-2018 16:10	
Surr: 4-Bromofluorobenzene	103		70-123	%REC	1	01-Jun-2018 16:10	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	13		1.7	mg/Kg	1	03-Jun-2018 08:00	
TPH (Motor Oil Range)	46	n	3.4	mg/Kg	1	03-Jun-2018 08:00	
Surr: 2-Fluorobiphenyl	69.4		60-129	%REC	1	03-Jun-2018 08:00	
ANIONS BY E300.0		Method:E300					
Chloride	1,210		24.5	mg/Kg	5	02-Jun-2018 04:01	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-1 3'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-03
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	0.014		0.0048	mg/Kg	1	31-May-2018 05:26	
Ethylbenzene	0.0093		0.0048	mg/Kg	1	31-May-2018 05:26	
m,p-Xylene	0.0098		0.0096	mg/Kg	1	31-May-2018 05:26	
o-Xylene	ND		0.0048	mg/Kg	1	31-May-2018 05:26	
Toluene	0.029		0.0048	mg/Kg	1	31-May-2018 05:26	
Xylenes, Total	0.014		0.0048	mg/Kg	1	31-May-2018 05:26	
Surr: 1,2-Dichloroethane-d4	93.7		70-126	%REC	1	31-May-2018 05:26	
Surr: 4-Bromofluorobenzene	95.3		70-130	%REC	1	31-May-2018 05:26	
Surr: Dibromofluoromethane	98.6		70-130	%REC	1	31-May-2018 05:26	
Surr: Toluene-d8	108		70-130	%REC	1	31-May-2018 05:26	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.084		0.050	mg/Kg	1	01-Jun-2018 16:26	
Surr: 4-Bromofluorobenzene	107		70-123	%REC	1	01-Jun-2018 16:26	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	150		8.5	mg/Kg	5	05-Jun-2018 06:46	
TPH (Motor Oil Range)	290	n	17	mg/Kg	5	05-Jun-2018 06:46	
Surr: 2-Fluorobiphenyl	112		60-129	%REC	5	05-Jun-2018 06:46	
ANIONS BY E300.0		Method:E300					
Chloride	597		4.96	mg/Kg	1	02-Jun-2018 04:23	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-2 1'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-04
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	0.0100		0.0050	mg/Kg	1	31-May-2018 05:54	
Ethylbenzene	0.020		0.0050	mg/Kg	1	31-May-2018 05:54	
m,p-Xylene	0.021		0.010	mg/Kg	1	31-May-2018 05:54	
o-Xylene	0.0096		0.0050	mg/Kg	1	31-May-2018 05:54	
Toluene	0.039		0.0050	mg/Kg	1	31-May-2018 05:54	
Xylenes, Total	0.030		0.0050	mg/Kg	1	31-May-2018 05:54	
Surr: 1,2-Dichloroethane-d4	88.7		70-126	%REC	1	31-May-2018 05:54	
Surr: 4-Bromofluorobenzene	93.1		70-130	%REC	1	31-May-2018 05:54	
Surr: Dibromofluoromethane	99.9		70-130	%REC	1	31-May-2018 05:54	
Surr: Toluene-d8	110		70-130	%REC	1	31-May-2018 05:54	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.14		0.050	mg/Kg	1	01-Jun-2018 16:43	
Surr: 4-Bromofluorobenzene	101		70-123	%REC	1	01-Jun-2018 16:43	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	ND		1.7	mg/Kg	1	03-Jun-2018 09:35	
TPH (Motor Oil Range)	12	n	3.4	mg/Kg	1	03-Jun-2018 09:35	
Surr: 2-Fluorobiphenyl	68.2		60-129	%REC	1	03-Jun-2018 09:35	
ANIONS BY E300.0		Method:E300					
Chloride	28.7		4.99	mg/Kg	1	02-Jun-2018 05:28	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-2 2'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT

WorkOrder:HS18051337
 Lab ID:HS18051337-05
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	ND		0.0047	mg/Kg	1	31-May-2018 06:24	
Ethylbenzene	0.0062		0.0047	mg/Kg	1	31-May-2018 06:24	
m,p-Xylene	ND		0.0094	mg/Kg	1	31-May-2018 06:24	
o-Xylene	ND		0.0047	mg/Kg	1	31-May-2018 06:24	
Toluene	ND		0.0047	mg/Kg	1	31-May-2018 06:24	
Xylenes, Total	ND		0.0047	mg/Kg	1	31-May-2018 06:24	
<i>Surr: 1,2-Dichloroethane-d4</i>	114		70-126	%REC	1	31-May-2018 06:24	
<i>Surr: 4-Bromofluorobenzene</i>	92.8		70-130	%REC	1	31-May-2018 06:24	
<i>Surr: Dibromofluoromethane</i>	112		70-130	%REC	1	31-May-2018 06:24	
<i>Surr: Toluene-d8</i>	107		70-130	%REC	1	31-May-2018 06:24	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	ND		0.050	mg/Kg	1	01-Jun-2018 16:59	
<i>Surr: 4-Bromofluorobenzene</i>	102		70-123	%REC	1	01-Jun-2018 16:59	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	ND		1.7	mg/Kg	1	03-Jun-2018 09:59	
TPH (Motor Oil Range)	7.9	n	3.4	mg/Kg	1	03-Jun-2018 09:59	
<i>Surr: 2-Fluorobiphenyl</i>	78.4		60-129	%REC	1	03-Jun-2018 09:59	
ANIONS BY E300.0		Method:E300					
Chloride	88.4		4.93	mg/Kg	1	02-Jun-2018 05:50	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-2 3'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-06
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	0.088		0.0048	mg/Kg	1	31-May-2018 06:51	
Ethylbenzene	0.038		0.0048	mg/Kg	1	31-May-2018 06:51	
m,p-Xylene	0.049		0.0096	mg/Kg	1	31-May-2018 06:51	
o-Xylene	0.022		0.0048	mg/Kg	1	31-May-2018 06:51	
Toluene	0.18		0.0048	mg/Kg	1	31-May-2018 06:51	
Xylenes, Total	0.071		0.0048	mg/Kg	1	31-May-2018 06:51	
Surr: 1,2-Dichloroethane-d4	94.5		70-126	%REC	1	31-May-2018 06:51	
Surr: 4-Bromofluorobenzene	92.9		70-130	%REC	1	31-May-2018 06:51	
Surr: Dibromofluoromethane	98.3		70-130	%REC	1	31-May-2018 06:51	
Surr: Toluene-d8	110		70-130	%REC	1	31-May-2018 06:51	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.24		0.050	mg/Kg	1	01-Jun-2018 17:15	
Surr: 4-Bromofluorobenzene	103		70-123	%REC	1	01-Jun-2018 17:15	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	ND		1.7	mg/Kg	1	05-Jun-2018 07:33	
TPH (Motor Oil Range)	9.5	n	3.4	mg/Kg	1	05-Jun-2018 07:33	
Surr: 2-Fluorobiphenyl	77.2		60-129	%REC	1	05-Jun-2018 07:33	
ANIONS BY E300.0		Method:E300					
Chloride	109		4.99	mg/Kg	1	02-Jun-2018 06:11	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-3 1'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-07
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	ND		0.0050	mg/Kg	1	31-May-2018 07:30	
Ethylbenzene	ND		0.0050	mg/Kg	1	31-May-2018 07:30	
m,p-Xylene	ND		0.0099	mg/Kg	1	31-May-2018 07:30	
o-Xylene	ND		0.0050	mg/Kg	1	31-May-2018 07:30	
Toluene	0.0094		0.0050	mg/Kg	1	31-May-2018 07:30	
Xylenes, Total	ND		0.0050	mg/Kg	1	31-May-2018 07:30	
<i>Surr: 1,2-Dichloroethane-d4</i>	81.8		70-126	%REC	1	31-May-2018 07:30	
<i>Surr: 4-Bromofluorobenzene</i>	87.1		70-130	%REC	1	31-May-2018 07:30	
<i>Surr: Dibromofluoromethane</i>	95.8		70-130	%REC	1	31-May-2018 07:30	
<i>Surr: Toluene-d8</i>	109		70-130	%REC	1	31-May-2018 07:30	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	ND		0.050	mg/Kg	1	01-Jun-2018 17:32	
<i>Surr: 4-Bromofluorobenzene</i>	104		70-123	%REC	1	01-Jun-2018 17:32	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	20		1.7	mg/Kg	1	05-Jun-2018 07:57	
TPH (Motor Oil Range)	40	n	3.4	mg/Kg	1	05-Jun-2018 07:57	
<i>Surr: 2-Fluorobiphenyl</i>	96.3		60-129	%REC	1	05-Jun-2018 07:57	
ANIONS BY E300.0		Method:E300					
Chloride	1,740		49.8	mg/Kg	10	02-Jun-2018 06:33	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-3 2'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT

WorkOrder:HS18051337
 Lab ID:HS18051337-08
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	0.10		0.0048	mg/Kg	1	31-May-2018 07:59	
Ethylbenzene	0.037		0.0048	mg/Kg	1	31-May-2018 07:59	
m,p-Xylene	0.053		0.0096	mg/Kg	1	31-May-2018 07:59	
o-Xylene	0.023		0.0048	mg/Kg	1	31-May-2018 07:59	
Toluene	0.19		0.0048	mg/Kg	1	31-May-2018 07:59	
Xylenes, Total	0.076		0.0048	mg/Kg	1	31-May-2018 07:59	
Surr: 1,2-Dichloroethane-d4	104		70-126	%REC	1	31-May-2018 07:59	
Surr: 4-Bromofluorobenzene	92.4		70-130	%REC	1	31-May-2018 07:59	
Surr: Dibromofluoromethane	103		70-130	%REC	1	31-May-2018 07:59	
Surr: Toluene-d8	106		70-130	%REC	1	31-May-2018 07:59	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.27		0.050	mg/Kg	1	01-Jun-2018 18:21	
Surr: 4-Bromofluorobenzene	103		70-123	%REC	1	01-Jun-2018 18:21	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	ND		1.7	mg/Kg	1	05-Jun-2018 08:21	
TPH (Motor Oil Range)	ND	n	3.4	mg/Kg	1	05-Jun-2018 08:21	
Surr: 2-Fluorobiphenyl	83.5		60-129	%REC	1	05-Jun-2018 08:21	
ANIONS BY E300.0		Method:E300					
Chloride	152		4.92	mg/Kg	1	02-Jun-2018 06:55	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-3 3'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-09
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	ND		0.0048	mg/Kg	1	02-Jun-2018 13:29	
Ethylbenzene	ND		0.0048	mg/Kg	1	02-Jun-2018 13:29	
m,p-Xylene	ND		0.0097	mg/Kg	1	02-Jun-2018 13:29	
o-Xylene	ND		0.0048	mg/Kg	1	02-Jun-2018 13:29	
Toluene	ND		0.0048	mg/Kg	1	02-Jun-2018 13:29	
Xylenes, Total	ND		0.0048	mg/Kg	1	02-Jun-2018 13:29	
Surr: 1,2-Dichloroethane-d4	93.5		70-126	%REC	1	02-Jun-2018 13:29	
Surr: 4-Bromofluorobenzene	95.7		70-130	%REC	1	02-Jun-2018 13:29	
Surr: Dibromofluoromethane	99.0		70-130	%REC	1	02-Jun-2018 13:29	
Surr: Toluene-d8	109		70-130	%REC	1	02-Jun-2018 13:29	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	ND		0.050	mg/Kg	1	01-Jun-2018 12:21	
Surr: 4-Bromofluorobenzene	101		70-123	%REC	1	01-Jun-2018 12:21	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	4,100		850	mg/Kg	500	05-Jun-2018 08:45	
TPH (Motor Oil Range)	4,400	n	1700	mg/Kg	500	05-Jun-2018 08:45	
Surr: 2-Fluorobiphenyl	1540	S	60-129	%REC	500	05-Jun-2018 08:45	
ANIONS BY E300.0		Method:E300					
Chloride	30.1		4.88	mg/Kg	1	02-Jun-2018 07:17	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-4 1'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-10
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	ND		0.0048	mg/Kg	1	01-Jun-2018 06:36	
Ethylbenzene	0.023		0.0048	mg/Kg	1	01-Jun-2018 06:36	
m,p-Xylene	ND		0.0097	mg/Kg	1	01-Jun-2018 06:36	
o-Xylene	ND		0.0048	mg/Kg	1	01-Jun-2018 06:36	
Toluene	ND		0.0048	mg/Kg	1	01-Jun-2018 06:36	
Xylenes, Total	ND		0.0048	mg/Kg	1	01-Jun-2018 06:36	
<i>Surr: 1,2-Dichloroethane-d4</i>	88.6		70-126	%REC	1	01-Jun-2018 06:36	
<i>Surr: 4-Bromofluorobenzene</i>	90.6		70-130	%REC	1	01-Jun-2018 06:36	
<i>Surr: Dibromofluoromethane</i>	93.0		70-130	%REC	1	01-Jun-2018 06:36	
<i>Surr: Toluene-d8</i>	110		70-130	%REC	1	01-Jun-2018 06:36	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.30		0.050	mg/Kg	1	01-Jun-2018 18:37	
<i>Surr: 4-Bromofluorobenzene</i>	104		70-123	%REC	1	01-Jun-2018 18:37	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	6.2		1.7	mg/Kg	1	05-Jun-2018 09:32	
TPH (Motor Oil Range)	18	n	3.4	mg/Kg	1	05-Jun-2018 09:32	
<i>Surr: 2-Fluorobiphenyl</i>	75.3		60-129	%REC	1	05-Jun-2018 09:32	
ANIONS BY E300.0		Method:E300					
Chloride	2,030		49.5	mg/Kg	10	02-Jun-2018 07:38	
Prep:SW3541 / 01-Jun-2018						Analyst: AAP	
Prep:E300 / 01-Jun-2018						Analyst: KMU	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-4 2'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-11
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	ND		0.0049	mg/Kg	1	01-Jun-2018 07:03	
Ethylbenzene	0.024		0.0049	mg/Kg	1	01-Jun-2018 07:03	
m,p-Xylene	0.022		0.0098	mg/Kg	1	01-Jun-2018 07:03	
o-Xylene	0.0083		0.0049	mg/Kg	1	01-Jun-2018 07:03	
Toluene	ND		0.0049	mg/Kg	1	01-Jun-2018 07:03	
Xylenes, Total	0.031		0.0049	mg/Kg	1	01-Jun-2018 07:03	
Surr: 1,2-Dichloroethane-d4	90.9		70-126	%REC	1	01-Jun-2018 07:03	
Surr: 4-Bromofluorobenzene	89.0		70-130	%REC	1	01-Jun-2018 07:03	
Surr: Dibromofluoromethane	95.9		70-130	%REC	1	01-Jun-2018 07:03	
Surr: Toluene-d8	107		70-130	%REC	1	01-Jun-2018 07:03	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.062		0.050	mg/Kg	1	01-Jun-2018 18:54	
Surr: 4-Bromofluorobenzene	102		70-123	%REC	1	01-Jun-2018 18:54	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	190		42	mg/Kg	25	05-Jun-2018 11:07	
TPH (Motor Oil Range)	450	n	85	mg/Kg	25	05-Jun-2018 11:07	
Surr: 2-Fluorobiphenyl	97.9		60-129	%REC	25	05-Jun-2018 11:07	
ANIONS BY E300.0		Method:E300					
Chloride	1,490		49.9	mg/Kg	10	02-Jun-2018 08:00	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
 Project: HT 18 Fed #1
 Sample ID: S-4 3'
 Collection Date: 24-May-2018 00:00

ANALYTICAL REPORT
 WorkOrder:HS18051337
 Lab ID:HS18051337-12
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260					
Benzene	0.093		0.0048	mg/Kg	1	02-Jun-2018 14:24	
Ethylbenzene	ND		0.0048	mg/Kg	1	02-Jun-2018 14:24	
m,p-Xylene	0.028		0.0096	mg/Kg	1	02-Jun-2018 14:24	
o-Xylene	0.023		0.0048	mg/Kg	1	02-Jun-2018 14:24	
Toluene	0.0060		0.0048	mg/Kg	1	02-Jun-2018 14:24	
Xylenes, Total	0.051		0.0048	mg/Kg	1	02-Jun-2018 14:24	
Surr: 1,2-Dichloroethane-d4	91.7		70-126	%REC	1	02-Jun-2018 14:24	
Surr: 4-Bromofluorobenzene	93.1		70-130	%REC	1	02-Jun-2018 14:24	
Surr: Dibromofluoromethane	101		70-130	%REC	1	02-Jun-2018 14:24	
Surr: Toluene-d8	110		70-130	%REC	1	02-Jun-2018 14:24	
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015					
Gasoline Range Organics	0.25		0.050	mg/Kg	1	01-Jun-2018 19:10	
Surr: 4-Bromofluorobenzene	107		70-123	%REC	1	01-Jun-2018 19:10	
TPH DRO/ORO BY SW8015C		Method:SW8015M					
TPH (Diesel Range)	ND		1.7	mg/Kg	1	05-Jun-2018 11:31	
TPH (Motor Oil Range)	6.8	n	3.4	mg/Kg	1	05-Jun-2018 11:31	
Surr: 2-Fluorobiphenyl	75.1		60-129	%REC	1	05-Jun-2018 11:31	
ANIONS BY E300.0		Method:E300					
Chloride	48.2		5.00	mg/Kg	1	02-Jun-2018 09:48	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

Batch ID: 2436**Method:** VOLATILES BY SW8260C

SampID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS18051337-01	1	5.163 (g)	5 (mL)	0.97	Bulk (5030B)
HS18051337-02	1	5.152 (g)	5 (mL)	0.97	Bulk (5030B)
HS18051337-03	1	5.2 (g)	5 (mL)	0.96	Bulk (5030B)
HS18051337-04	1	4.994 (g)	5 (mL)	1	Bulk (5030B)
HS18051337-05	1	5.304 (g)	5 (mL)	0.94	Bulk (5030B)
HS18051337-06	1	5.208 (g)	5 (mL)	0.96	Bulk (5030B)
HS18051337-07	1	5.031 (g)	5 (mL)	0.99	Bulk (5030B)
HS18051337-08	1	5.234 (g)	5 (mL)	0.96	Bulk (5030B)
HS18051337-09	1	5.135 (g)	5 (mL)	0.97	Bulk (5030B)
HS18051337-10	1	5.163 (g)	5 (mL)	0.97	Bulk (5030B)
HS18051337-11	1	5.096 (g)	5 (mL)	0.98	Bulk (5030B)
HS18051337-12	1	5.207 (g)	5 (mL)	0.96	Bulk (5030B)

Batch ID: 2442**Method:** GASOLINE RANGE ORGANICS BY SW8015C**Prep:**

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18051337-01	1	5.01 (g)	5 (mL)	1
HS18051337-02	1	5 (g)	5 (mL)	1
HS18051337-03	1	5.01 (g)	5 (mL)	1
HS18051337-04	1	4.96 (g)	5 (mL)	1.01
HS18051337-05	1	5.03 (g)	5 (mL)	0.99
HS18051337-06	1	5 (g)	5 (mL)	1
HS18051337-07	1	4.99 (g)	5 (mL)	1
HS18051337-08	1	5.03 (g)	5 (mL)	0.99
HS18051337-09	1	5 (g)	5 (mL)	1
HS18051337-10	1	4.99 (g)	5 (mL)	1
HS18051337-11	1	4.99 (g)	5 (mL)	1
HS18051337-12	1	5.02 (g)	5 (mL)	1

Batch ID: 129017**Method:** TPH DRO/ORO BY SW8015C**Prep:** 8015SPR_LL

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18051337-01	1	30.06	1 (mL)	0.03327
HS18051337-02	1	30.04	1 (mL)	0.03329
HS18051337-03	1	30.08	1 (mL)	0.03324
HS18051337-04	1	30.02	1 (mL)	0.03331
HS18051337-05	1	30.06	1 (mL)	0.03327
HS18051337-06	1	30.07	1 (mL)	0.03326
HS18051337-07	1	30.05	1 (mL)	0.03328
HS18051337-08	1	30.09	1 (mL)	0.03323
HS18051337-09	1	30.04	1 (mL)	0.03329
HS18051337-10	1	30.07	1 (mL)	0.03326
HS18051337-11	1	30.09	1 (mL)	0.03323
HS18051337-12	1	30.02	1 (mL)	0.03331

WEIGHT LOG

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

Batch ID: 129028 **Method:** ANIONS BY E300.0 **Prep:** 300_S_PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18051337-01	1	5.009	50 (mL)	9.982
HS18051337-02	1	5.0918	50 (mL)	9.82
HS18051337-03	1	5.0424	50 (mL)	9.916
HS18051337-04	1	5.0115	50 (mL)	9.977
HS18051337-05	1	5.0708	50 (mL)	9.86
HS18051337-06	1	5.0061	50 (mL)	9.988
HS18051337-07	1	5.0226	50 (mL)	9.955
HS18051337-08	1	5.0862	50 (mL)	9.831
HS18051337-09	1	5.1215	50 (mL)	9.763
HS18051337-10	1	5.0512	50 (mL)	9.899
HS18051337-11	1	5.0105	50 (mL)	9.979
HS18051337-12	1	5.0018	50 (mL)	9.996

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID	129017	Test Name : TPH DRO/ORO BY SW8015C			Matrix: Soil	
HS18051337-01	S-1 1'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 05:58	10
HS18051337-02	S-1 2'	24 May 2018 00:00		01 Jun 2018 11:00	03 Jun 2018 08:00	1
HS18051337-03	S-1 3'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 06:46	5
HS18051337-04	S-2 1'	24 May 2018 00:00		01 Jun 2018 11:00	03 Jun 2018 09:35	1
HS18051337-05	S-2 2'	24 May 2018 00:00		01 Jun 2018 11:00	03 Jun 2018 09:59	1
HS18051337-06	S-2 3'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 07:33	1
HS18051337-07	S-3 1'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 07:57	1
HS18051337-08	S-3 2'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 08:21	1
HS18051337-09	S-3 3'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 08:45	500
HS18051337-10	S-4 1'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 09:32	1
HS18051337-11	S-4 2'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 11:07	25
HS18051337-12	S-4 3'	24 May 2018 00:00		01 Jun 2018 11:00	05 Jun 2018 11:31	1
Batch ID	129028	Test Name : ANIONS BY E300.0			Matrix: Soil	
HS18051337-01	S-1 1'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 02:56	1
HS18051337-02	S-1 2'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 04:01	5
HS18051337-03	S-1 3'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 04:23	1
HS18051337-04	S-2 1'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 05:28	1
HS18051337-05	S-2 2'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 05:50	1
HS18051337-06	S-2 3'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 06:11	1
HS18051337-07	S-3 1'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 06:33	10
HS18051337-08	S-3 2'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 06:55	1
HS18051337-09	S-3 3'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 07:17	1
HS18051337-10	S-4 1'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 07:38	10
HS18051337-11	S-4 2'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 08:00	10
HS18051337-12	S-4 3'	24 May 2018 00:00		01 Jun 2018 11:00	02 Jun 2018 09:48	1
Batch ID	R317115	Test Name : VOLATILES BY SW8260C			Matrix: Soil	
HS18051337-01	S-1 1'	24 May 2018 00:00			31 May 2018 04:30	1
HS18051337-02	S-1 2'	24 May 2018 00:00			31 May 2018 04:58	1
HS18051337-03	S-1 3'	24 May 2018 00:00			31 May 2018 05:26	1
HS18051337-04	S-2 1'	24 May 2018 00:00			31 May 2018 05:54	1
HS18051337-05	S-2 2'	24 May 2018 00:00			31 May 2018 06:24	1
HS18051337-06	S-2 3'	24 May 2018 00:00			31 May 2018 06:51	1
HS18051337-07	S-3 1'	24 May 2018 00:00			31 May 2018 07:30	1
HS18051337-08	S-3 2'	24 May 2018 00:00			31 May 2018 07:59	1
Batch ID	R317222	Test Name : VOLATILES BY SW8260C			Matrix: Soil	
HS18051337-10	S-4 1'	24 May 2018 00:00			01 Jun 2018 06:36	1
HS18051337-11	S-4 2'	24 May 2018 00:00			01 Jun 2018 07:03	1

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID	R317277	Test Name : VOLATILES BY SW8260C				Matrix: Soil
HS18051337-09	S-3 3'	24 May 2018 00:00			02 Jun 2018 13:29	1
HS18051337-12	S-4 3'	24 May 2018 00:00			02 Jun 2018 14:24	1
Batch ID	R317297	Test Name : GASOLINE RANGE ORGANICS BY SW8015C				Matrix: Soil
HS18051337-01	S-1 1'	24 May 2018 00:00			01 Jun 2018 15:53	1
HS18051337-02	S-1 2'	24 May 2018 00:00			01 Jun 2018 16:10	1
HS18051337-03	S-1 3'	24 May 2018 00:00			01 Jun 2018 16:26	1
HS18051337-04	S-2 1'	24 May 2018 00:00			01 Jun 2018 16:43	1
HS18051337-05	S-2 2'	24 May 2018 00:00			01 Jun 2018 16:59	1
HS18051337-06	S-2 3'	24 May 2018 00:00			01 Jun 2018 17:15	1
HS18051337-07	S-3 1'	24 May 2018 00:00			01 Jun 2018 17:32	1
HS18051337-08	S-3 2'	24 May 2018 00:00			01 Jun 2018 18:21	1
HS18051337-09	S-3 3'	24 May 2018 00:00			01 Jun 2018 12:21	1
HS18051337-10	S-4 1'	24 May 2018 00:00			01 Jun 2018 18:37	1
HS18051337-11	S-4 2'	24 May 2018 00:00			01 Jun 2018 18:54	1
HS18051337-12	S-4 3'	24 May 2018 00:00			01 Jun 2018 19:10	1

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: 129017		Instrument: FID-7		Method: SW8015M			
MLBK	Sample ID: MBLK-129017	Units: mg/Kg		Analysis Date: 03-Jun-2018 06:49			
Client ID:	Run ID: FID-7_317513	SeqNo: 4589879		PrepDate: 01-Jun-2018	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
TPH (Diesel Range)	ND	1.7					
TPH (Motor Oil Range)	ND	3.4					
Surr: 2-Fluorobiphenyl	2.465	0.10	3.33	0	74.0	70 - 130	
LCS	Sample ID: LCS-129017	Units: mg/Kg		Analysis Date: 03-Jun-2018 07:13			
Client ID:	Run ID: FID-7_317513	SeqNo: 4589880		PrepDate: 01-Jun-2018	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
TPH (Diesel Range)	30.22	1.7	33.33	0	90.7	70 - 130	
TPH (Motor Oil Range)	37.48	3.4	33.33	0	112	70 - 130	
Surr: 2-Fluorobiphenyl	2.944	0.10	3.33	0	88.4	70 - 130	
MS	Sample ID: HS18051337-02MS	Units: mg/Kg		Analysis Date: 03-Jun-2018 08:24			
Client ID: S-1 2'	Run ID: FID-7_317513	SeqNo: 4589882		PrepDate: 01-Jun-2018	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
TPH (Diesel Range)	42.11	1.7	33.23	12.6	88.8	70 - 130	
TPH (Motor Oil Range)	66.35	3.4	33.23	45.52	62.7	70 - 130	S
Surr: 2-Fluorobiphenyl	2.798	0.10	3.32	0	84.3	60 - 129	
MSD	Sample ID: HS18051337-02MSD	Units: mg/Kg		Analysis Date: 03-Jun-2018 08:48			
Client ID: S-1 2'	Run ID: FID-7_317513	SeqNo: 4589883		PrepDate: 01-Jun-2018	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
TPH (Diesel Range)	40.55	1.7	33.3	12.6	84.0	70 - 130	42.11 3.77 30
TPH (Motor Oil Range)	66.74	3.4	33.3	45.52	63.7	70 - 130	66.35 0.59 30 SE
Surr: 2-Fluorobiphenyl	2.996	0.10	3.327	0	90.1	60 - 129	2.798 6.84 30
The following samples were analyzed in this batch:		HS18051337-01	HS18051337-02	HS18051337-03	HS18051337-04		
		HS18051337-05	HS18051337-06	HS18051337-07	HS18051337-08		
		HS18051337-09	HS18051337-10	HS18051337-11	HS18051337-12		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317297

Instrument: FID-14

Method: SW8015

MBLK	Sample ID: GMBLK-180601	Units: mg/Kg		Analysis Date: 01-Jun-2018 12:05			
Client ID:	Run ID: FID-14_317297			SeqNo: 4584881	PrepDate:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual

Gasoline Range Organics ND 0.050

Surr: 4-Bromofluorobenzene 0.09287 0.0050 0.1 0 92.9 75 - 121

LCS	Sample ID: GLCS-180601	Units: mg/Kg		Analysis Date: 01-Jun-2018 11:32			
Client ID:	Run ID: FID-14_317297			SeqNo: 4584880	PrepDate:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual

Gasoline Range Organics 1.093 0.050 1 0 109 72 - 121

Surr: 4-Bromofluorobenzene 0.08601 0.0050 0.1 0 86.0 75 - 121

MS	Sample ID: HS18051337-09MS	Units: mg/Kg		Analysis Date: 01-Jun-2018 12:37			
Client ID: S-3 3'	Run ID: FID-14_317297			SeqNo: 4584883	PrepDate:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual

Gasoline Range Organics 0.7579 0.050 1 0 75.8 70 - 130

Surr: 4-Bromofluorobenzene 0.07328 0.0050 0.1 0 73.3 70 - 123

MS	Sample ID: HS18051337-09MS	Units: mg/Kg		Analysis Date: 01-Jun-2018 12:54			
Client ID: S-3 3'	Run ID: FID-14_317297			SeqNo: 4584884	PrepDate:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual

Gasoline Range Organics 0.8114 0.050 1 0 81.1 70 - 130

Surr: 4-Bromofluorobenzene 0.07527 0.0050 0.1 0 75.3 70 - 123

The following samples were analyzed in this batch:	HS18051337-01	HS18051337-02	HS18051337-03	HS18051337-04
	HS18051337-05	HS18051337-06	HS18051337-07	HS18051337-08
	HS18051337-09	HS18051337-10	HS18051337-11	HS18051337-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317115		Instrument: VOA8		Method: SW8260			
MLBK	Sample ID: VBLKS2-053018	Units: ug/Kg		Analysis Date: 31-May-2018 00:25			
Client ID:	Run ID: VOA8_317115			SeqNo: 4580653	PrepDate:	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	ND	5.0					
Ethylbenzene	ND	5.0					
m,p-Xylene	ND	10					
o-Xylene	ND	5.0					
Toluene	ND	5.0					
Xylenes, Total	ND	5.0					
<i>Surr: 1,2-Dichloroethane-d4</i>	50.41	0	50	0	101	76 - 125	
<i>Surr: 4-Bromofluorobenzene</i>	54.34	0	50	0	109	83 - 120	
<i>Surr: Dibromofluoromethane</i>	49.9	0	50	0	99.8	80 - 119	
<i>Surr: Toluene-d8</i>	54.04	0	50	0	108	81 - 118	
LCS	Sample ID: VLCSS2-053018	Units: ug/Kg		Analysis Date: 30-May-2018 23:31			
Client ID:	Run ID: VOA8_317115			SeqNo: 4580652	PrepDate:	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	48.41	5.0	50	0	96.8	75 - 124	
Ethylbenzene	50.25	5.0	50	0	100	70 - 123	
m,p-Xylene	99.18	10	100	0	99.2	77 - 125	
o-Xylene	49.64	5.0	50	0	99.3	78 - 122	
Toluene	49.05	5.0	50	0	98.1	76 - 122	
Xylenes, Total	148.8	5.0	150	0	99.2	77 - 128	
<i>Surr: 1,2-Dichloroethane-d4</i>	53.85	0	50	0	108	76 - 125	
<i>Surr: 4-Bromofluorobenzene</i>	50.68	0	50	0	101	83 - 120	
<i>Surr: Dibromofluoromethane</i>	52.1	0	50	0	104	80 - 119	
<i>Surr: Toluene-d8</i>	49.86	0	50	0	99.7	81 - 118	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317115		Instrument: VOA8		Method: SW8260			
MS	Sample ID: HS18051333-05MS	Units: ug/Kg		Analysis Date: 31-May-2018 03:36			
Client ID:	Run ID: VOA8_317115	SeqNo: 4580660		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	37.64	4.9	49	2.628	71.4	70 - 130	
Ethylbenzene	32.63	4.9	49	1.444	63.6	70 - 130	S
m,p-Xylene	111.7	9.8	98	53.5	59.4	70 - 130	S
o-Xylene	60.24	4.9	49	34.19	53.2	70 - 130	S
Toluene	39.62	4.9	49	6.207	68.2	70 - 130	S
Xylenes, Total	172	4.9	147	87.69	57.3	70 - 130	S
<i>Surr: 1,2-Dichloroethane-d4</i>	51.52	0	49	0	105	70 - 126	
<i>Surr: 4-Bromofluorobenzene</i>	48.3	0	49	0	98.6	70 - 130	
<i>Surr: Dibromofluoromethane</i>	51.8	0	49	0	106	70 - 130	
<i>Surr: Toluene-d8</i>	50.79	0	49	0	104	70 - 130	
MSD	Sample ID: HS18051333-05MSD	Units: ug/Kg		Analysis Date: 31-May-2018 04:04			
Client ID:	Run ID: VOA8_317115	SeqNo: 4580661		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	37.89	4.9	49	2.628	72.0	70 - 130	37.64 0.657 30
Ethylbenzene	36.32	4.9	49	1.444	71.2	70 - 130	32.63 10.7 30
m,p-Xylene	103.6	9.8	98	53.5	51.1	70 - 130	111.7 7.56 30 S
o-Xylene	54.44	4.9	49	34.19	41.3	70 - 130	60.24 10.1 30 S
Toluene	41.93	4.9	49	6.207	72.9	70 - 130	39.62 5.65 30
Xylenes, Total	158	4.9	147	87.69	47.8	70 - 130	172 8.45 30 S
<i>Surr: 1,2-Dichloroethane-d4</i>	50.07	0	49	0	102	70 - 126	51.52 2.84 30
<i>Surr: 4-Bromofluorobenzene</i>	49.3	0	49	0	101	70 - 130	48.3 2.06 30
<i>Surr: Dibromofluoromethane</i>	50.98	0	49	0	104	70 - 130	51.8 1.6 30
<i>Surr: Toluene-d8</i>	52.3	0	49	0	107	70 - 130	50.79 2.92 30
The following samples were analyzed in this batch:		HS18051337-01	HS18051337-02	HS18051337-03	HS18051337-04		
		HS18051337-05	HS18051337-06	HS18051337-07	HS18051337-08		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317222		Instrument: VOA8		Method: SW8260			
MLBK	Sample ID: VBLKS2-053118	Units: ug/Kg		Analysis Date: 01-Jun-2018 02:55			
Client ID:	Run ID: VOA8_317222	SeqNo: 4582987	PrepDate:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	ND	5.0					
Ethylbenzene	ND	5.0					
m,p-Xylene	ND	10					
o-Xylene	ND	5.0					
Toluene	ND	5.0					
Xylenes, Total	ND	5.0					
<i>Surr: 1,2-Dichloroethane-d4</i>	46.35	0	50	0	92.7	76 - 125	
<i>Surr: 4-Bromofluorobenzene</i>	50.65	0	50	0	101	83 - 120	
<i>Surr: Dibromofluoromethane</i>	50.25	0	50	0	101	80 - 119	
<i>Surr: Toluene-d8</i>	55.33	0	50	0	111	81 - 118	
LCS	Sample ID: VLCSS2-053118	Units: ug/Kg		Analysis Date: 01-Jun-2018 01:06			
Client ID:	Run ID: VOA8_317222	SeqNo: 4582985	PrepDate:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	46.19	5.0	50	0	92.4	75 - 124	
Ethylbenzene	49.65	5.0	50	0	99.3	70 - 123	
m,p-Xylene	100.3	10	100	0	100	77 - 125	
o-Xylene	48.88	5.0	50	0	97.8	78 - 122	
Toluene	49.16	5.0	50	0	98.3	76 - 122	
Xylenes, Total	149.2	5.0	150	0	99.4	77 - 128	
<i>Surr: 1,2-Dichloroethane-d4</i>	52.47	0	50	0	105	76 - 125	
<i>Surr: 4-Bromofluorobenzene</i>	49.58	0	50	0	99.2	83 - 120	
<i>Surr: Dibromofluoromethane</i>	52.78	0	50	0	106	80 - 119	
<i>Surr: Toluene-d8</i>	51.53	0	50	0	103	81 - 118	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317222		Instrument: VOA8		Method: SW8260					
LCSD	Sample ID: VLCSDS2-053118	Units: ug/Kg		Analysis Date: 01-Jun-2018 02:01					
Client ID:	Run ID: VOA8_317222			SeqNo: 4582986	PrepDate:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	49.87	5.0	50	0	99.7	75 - 124	46.19	7.65	20
Ethylbenzene	54.26	5.0	50	0	109	70 - 123	49.65	8.87	20
m,p-Xylene	109.1	10	100	0	109	77 - 125	100.3	8.43	20
o-Xylene	53.04	5.0	50	0	106	78 - 122	48.88	8.17	20
Toluene	53.91	5.0	50	0	108	76 - 122	49.16	9.22	20
Xylenes, Total	162.1	5.0	150	0	108	77 - 128	149.2	8.34	20
Surr: 1,2-Dichloroethane-d4	52.38	0	50	0	105	76 - 125	52.47	0.178	20
Surr: 4-Bromofluorobenzene	48.85	0	50	0	97.7	83 - 120	49.58	1.48	20
Surr: Dibromofluoromethane	52.45	0	50	0	105	80 - 119	52.78	0.633	20
Surr: Toluene-d8	52.11	0	50	0	104	81 - 118	51.53	1.12	20
MS	Sample ID: HS18051333-03MS	Units: ug/Kg		Analysis Date: 01-Jun-2018 05:15					
Client ID:	Run ID: VOA8_317222			SeqNo: 4582991	PrepDate:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	149.9	5.0	50	250.8	-202	70 - 130			SO
Ethylbenzene	1316	5.0	50	1289	53.5	70 - 130			SEO
m,p-Xylene	1696	10	100	1634	62.8	70 - 130			SEO
o-Xylene	521.6	5.0	50	495.8	51.6	70 - 130			SEO
Toluene	1332	5.0	50	150.7	2360	70 - 130			SE
Xylenes, Total	2218	5.0	150	2129	59.0	70 - 130			SEO
Surr: 1,2-Dichloroethane-d4	49.82	0	50	0	99.6	70 - 126			
Surr: 4-Bromofluorobenzene	52.63	0	50	0	105	70 - 130			
Surr: Dibromofluoromethane	51.74	0	50	0	103	70 - 130			
Surr: Toluene-d8	53.36	0	50	0	107	70 - 130			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317222		Instrument: VOA8		Method: SW8260					
MSD	Sample ID: HS18051333-03MSD	Units: ug/Kg		Analysis Date: 01-Jun-2018 05:43					
Client ID:	Run ID: VOA8_317222	SeqNo: 4582992		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	103	4.9	49	250.8	-302	70 - 130	149.9	37.1	30 SRO
Ethylbenzene	899.2	4.9	49	1289	-796	70 - 130	1316	37.6	30 SREO
m,p-Xylene	1188	9.8	98	1634	-455	70 - 130	1696	35.3	30 SREO
o-Xylene	368.3	4.9	49	495.8	-260	70 - 130	521.6	34.4	30 SREO
Toluene	1114	4.9	49	150.7	1970	70 - 130	1332	17.9	30 SE
Xylenes, Total	1556	4.9	147	2129	-390	70 - 130	2218	35.1	30 SREO
<i>Surr: 1,2-Dichloroethane-d4</i>	52.73	0	49	0	108	70 - 126	49.82	5.66	30
<i>Surr: 4-Bromofluorobenzene</i>	50.14	0	49	0	102	70 - 130	52.63	4.84	30
<i>Surr: Dibromofluoromethane</i>	51.07	0	49	0	104	70 - 130	51.74	1.3	30
<i>Surr: Toluene-d8</i>	52.59	0	49	0	107	70 - 130	53.36	1.45	30

The following samples were analyzed in this batch: HS18051337-10 HS18051337-11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317277		Instrument: VOA8		Method: SW8260			
MLBK	Sample ID: VBLKS1-060218	Units: ug/Kg		Analysis Date: 02-Jun-2018 11:10			
Client ID:	Run ID: VOA8_317277			SeqNo: 4584440	PrepDate:	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	ND	5.0					
Ethylbenzene	ND	5.0					
m,p-Xylene	ND	10					
o-Xylene	ND	5.0					
Toluene	ND	5.0					
Xylenes, Total	ND	5.0					
<i>Surr: 1,2-Dichloroethane-d4</i>	45.55	0	50	0	91.1	76 - 125	
<i>Surr: 4-Bromofluorobenzene</i>	50.03	0	50	0	100	83 - 120	
<i>Surr: Dibromofluoromethane</i>	49.14	0	50	0	98.3	80 - 119	
<i>Surr: Toluene-d8</i>	55	0	50	0	110	81 - 118	
LCS	Sample ID: VLCSS1-060218	Units: ug/Kg		Analysis Date: 02-Jun-2018 10:13			
Client ID:	Run ID: VOA8_317277			SeqNo: 4584439	PrepDate:	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
Benzene	48.47	5.0	50	0	96.9	75 - 124	
Ethylbenzene	53.8	5.0	50	0	108	70 - 123	
m,p-Xylene	107.1	10	100	0	107	77 - 125	
o-Xylene	52.11	5.0	50	0	104	78 - 122	
Toluene	53.21	5.0	50	0	106	76 - 122	
Xylenes, Total	159.2	5.0	150	0	106	77 - 128	
<i>Surr: 1,2-Dichloroethane-d4</i>	51.46	0	50	0	103	76 - 125	
<i>Surr: 4-Bromofluorobenzene</i>	49.06	0	50	0	98.1	83 - 120	
<i>Surr: Dibromofluoromethane</i>	51.88	0	50	0	104	80 - 119	
<i>Surr: Toluene-d8</i>	52.07	0	50	0	104	81 - 118	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: R317277		Instrument: VOA8		Method: SW8260					
MS	Sample ID: HS18051337-09MS	Units: ug/Kg		Analysis Date: 02-Jun-2018 14:52					
Client ID: S-3 3'	Run ID: VOA8_317277	SeqNo: 4584448		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	48.55	5.0	49.5	0	98.1	70 - 130			
Ethylbenzene	55.14	5.0	49.5	1.333	109	70 - 130			
m,p-Xylene	107.8	9.9	99	2.092	107	70 - 130			
o-Xylene	53.36	5.0	49.5	1.007	106	70 - 130			
Toluene	55.6	5.0	49.5	2.625	107	70 - 130			
Xylenes, Total	161.1	5.0	148.5	3.098	106	70 - 130			
Surr: 1,2-Dichloroethane-d4	50.26	0	49.5	0	102	70 - 126			
Surr: 4-Bromofluorobenzene	49.55	0	49.5	0	100	70 - 130			
Surr: Dibromofluoromethane	50.56	0	49.5	0	102	70 - 130			
Surr: Toluene-d8	51.97	0	49.5	0	105	70 - 130			
MSD	Sample ID: HS18051337-09MSD	Units: ug/Kg		Analysis Date: 02-Jun-2018 15:20					
Client ID: S-3 3'	Run ID: VOA8_317277	SeqNo: 4584449		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	51.58	5.0	49.5	0	104	70 - 130	48.55	6.05	30
Ethylbenzene	53.92	5.0	49.5	1.333	106	70 - 130	55.14	2.23	30
m,p-Xylene	106.2	9.9	99	2.092	105	70 - 130	107.8	1.42	30
o-Xylene	52.38	5.0	49.5	1.007	104	70 - 130	53.36	1.84	30
Toluene	54.7	5.0	49.5	2.625	105	70 - 130	55.6	1.63	30
Xylenes, Total	158.6	5.0	148.5	3.098	105	70 - 130	161.1	1.56	30
Surr: 1,2-Dichloroethane-d4	51.55	0	49.5	0	104	70 - 126	50.26	2.53	30
Surr: 4-Bromofluorobenzene	49.11	0	49.5	0	99.2	70 - 130	49.55	0.881	30
Surr: Dibromofluoromethane	51.56	0	49.5	0	104	70 - 130	50.56	1.96	30
Surr: Toluene-d8	51.09	0	49.5	0	103	70 - 130	51.97	1.7	30

The following samples were analyzed in this batch: HS18051337-09 HS18051337-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: 129028		Instrument: ICS3K2		Method: E300					
MLBK	Sample ID: MBLK-129028			Units: mg/Kg		Analysis Date: 02-Jun-2018 01:29			
Client ID:		Run ID: ICS3K2_317410		SeqNo: 4587484	PrepDate: 01-Jun-2018	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	ND	5.00							
LCS	Sample ID: LCS-129028			Units: mg/Kg		Analysis Date: 02-Jun-2018 02:13			
Client ID:		Run ID: ICS3K2_317410		SeqNo: 4587485	PrepDate: 01-Jun-2018	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	203.7	5.00	200	0	102	90 - 110			
LCSD	Sample ID: LCSD-129028			Units: mg/Kg		Analysis Date: 02-Jun-2018 02:34			
Client ID:		Run ID: ICS3K2_317410		SeqNo: 4587486	PrepDate: 01-Jun-2018	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	204	5.00	200	0	102	90 - 110	203.7	0.152	20
MS	Sample ID: HS18051337-11MS			Units: mg/Kg		Analysis Date: 02-Jun-2018 08:22			
Client ID: S-4 2'		Run ID: ICS3K2_317410		SeqNo: 4587502	PrepDate: 01-Jun-2018	DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	2418	49.7	994.2	1488	93.6	75 - 125			
MS	Sample ID: HS18051337-01MS			Units: mg/Kg		Analysis Date: 02-Jun-2018 03:18			
Client ID: S-1 1'		Run ID: ICS3K2_317410		SeqNo: 4587488	PrepDate: 01-Jun-2018	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	154.8	4.98	99.66	51.12	104	75 - 125			
MSD	Sample ID: HS18051337-11MSD			Units: mg/Kg		Analysis Date: 02-Jun-2018 08:43			
Client ID: S-4 2'		Run ID: ICS3K2_317410		SeqNo: 4587503	PrepDate: 01-Jun-2018	DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	2289	49.9	998.8	1488	80.2	75 - 125	2418	5.51	20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

QC BATCH REPORT

Batch ID: 129028		Instrument: ICS3K2		Method: E300					
MSD	Sample ID: HS18051337-01MSD	Units: mg/Kg			Analysis Date: 02-Jun-2018 03:40				
Client ID: S-1 1'		Run ID: ICS3K2_317410		SeqNo: 4587489	PrepDate: 01-Jun-2018	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	Limit Qual
Chloride	154.2	4.99	99.88	51.12	103	75 - 125	154.8	0.381	20
The following samples were analyzed in this batch: HS18051337-01 HS18051337-02 HS18051337-03 HS18051337-04 HS18051337-05 HS18051337-06 HS18051337-07 HS18051337-08 HS18051337-09 HS18051337-10 HS18051337-11 HS18051337-12									

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Parsons Brinckerhoff
Project: HT 18 Fed #1
WorkOrder: HS18051337

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
California	2919 2016-2018	31-Jul-2018
Oklahoma	2017-088	31-Aug-2018
North Carolina	624-2018	31-Dec-2018
Louisiana	03087 2017-2018	30-Jun-2018
Arkansas	88-0356	27-Mar-2019
Kansas	E-10352 2017-218	31-Jul-2018
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193	30-Apr-2019

Sample Receipt Checklist

Client Name: LBG Addison Texas
 Work Order: HS18051337

Date/Time Received: 26-May-2018 09:30
 Received by: JRM

Checklist completed by:	<i>Paresh M. Giga</i> eSignature	29-May-2018 Date	Reviewed by:	<i>Bernadette A. Fini</i> eSignature	29-May-2018 Date
-------------------------	-------------------------------------	---------------------	--------------	---	---------------------

Matrices: Soil Carrier name: Greyhound

Shipping container/coolier in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/coolier?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TX1005 solids received in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

Temperature(s)/Thermometer(s):	2.1c/1.6c U/C	IR11	
Cooler(s)/Kit(s):	Brown		
Date/Time sample(s) sent to storage:	5/26/18 13:00		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

pH adjusted by:

Login Notes: No sampling times on COC & jar labels

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Environmental

+1 513 733 5336

Everett, WA
+1 425 356 2600

+1 970 490 1511

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 21755

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Customer Information		Project Information		ALS Project Manager:				ALS Work Order #:									
Purchase Order		Project Name	HT 18 Fed #1	A	TFF 8015 DRD GLO MRO												
Work Order		Project Number		B	BTEx 8260 or 8021												
Company Name	WSP USA Inc	Bill To Company		C	Chlorides 300												
Send Report To	Matthew Boyle	Invoice Attn	Sand	D													
Address	2777 N Stemmons Suite 1600	Address		E													
City/State/Zip	Dallas TX 75207	City/State/Zip		F													
Phone	812 213 0262	Phone		G													
Fax		Fax		H													
e-Mail Address	Matthew.Boyle@wsp.com	e-Mail Address		I													
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-1 1'	5-24-18		Soil	1Kg	2	/	/	/	/							
2	S-1 2'						/	/	/	/							
3	S-1 3'						/	/	/	/							
4	S-2 1'						/	/	/	/							
5	S-2 2'						/	/	/	/							
6	S-2 3'						/	/	/	/							
7	S-3 1'						/	/	/	/							
8	S-3 2'						/	/	/	/							
9	S-3 3'						/	/	/	/							
10	S-4 1'						/	/	/	/							
Sampler(s) Please Print & Sign				Shipment Method	Required Turnaround Time: (Check Box)			Other		Results Due Date:							
Matthew Boyle				FedEx	<input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour												
Relinquished by:		Date: 5-25-18	Time: 7:30	Received by:				Notes:									
Relinquished by:		Date: 5/26/18	Time: 09:30	Received by (Laboratory):				Cooler ID	Cooler Temp	QC Package: (Check One Box Below)							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):				Brown	2-1	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other _____							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035 CF-O.S																	

- Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2012 by ALS Environmental.



Environmental

+1 513 733 5336

Everett, WA
+1 425 356 2600

+1 970 490 1511

Holland, MI
+1 616 399 6070

CHART OF CUSTODY FORM

Page 2 of 2

COC ID: 21757

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleroi, PA
+1 304 356 3168

York, PA
+1 717 505 5280

Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	HT 18 Fed #1	A	TPH 8015 PRO GLO MRO												
Work Order		Project Number	Soil	B	BTEX 8021 or 8260												
Company Name	WSP USA INC.	Bill To Company		C	Chlorides 330												
Send Report To	Matthew Boyle	Invoice Attn		D													
Address	2222 N Stemmons Suite 1600	Address		E													
City/State/Zip	Dallas TX 75227	City/State/Zip		G													
Phone	817 715 0262	Phone		H													
Fax		Fax		I													
e-Mail Address		e-Mail Address		J													
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-42'	5-24-18		Soil	ICP	2	/	/	/	/							
2	S-43'	5-24-18		Soil	ICP	2	/	/	/	/							
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Sampler(s) Please Print & Sign:				Shipment Method		Required Turnaround Time: (Check Box)				Other _____		Results Due Date:					
Matthew Boyle				FedEx		<input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour											
Relinquished by: <i>Matthew Boyle</i>		Date: 5-25-18	Time: 7:30	Received by: _____		Notes: _____											
Relinquished by: <i>Matthew Boyle</i>		Date: 5-26-18	Time: 07:30	Received by (Laboratory): <i>J. MacLean</i>		Cooler ID	Cooler Temp	QC Package: (Check One Box Below)									
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory): <i>Brown</i>		UC	2-1	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other _____									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035																	

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2012 by ALS Environmental.

TRK#
0201 7811 3878 4479

SATURDAY 12:00
PRIORITY OVERNIGHT

AHS

XO SGRA

Brown

TX-US

77099
IAH

