

Incident ID	nAPP2125652492
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Heather Woods Title: EHS Specialist

Signature:  Date: 5/12/2023

email: Heather.Woods@whiptialmidstream.com Telephone: (505) 636-0574

OCD Only

Received by: OCD Date: 5/12/23

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature:  Date: 7/5/2023



1703 Calder Street, Farmington, New Mexico 87401

May 11, 2023

Mr. Michael Bratcher
Incident Supervisor
New Mexico Oil Conservation Division
506 W. Texas Avenue
Artesia, New Mexico 87210

Subject: Remediation Plan for MC COM #160 Release (nAPP2125652492)

Dear Mr. Bratcher:

Whiptail Midstream, LLC (Whiptail) submits this Remediation Plan for the MC COM #160 release (nAPP2125652492) which describes the remediation completed to date as well as proposed delineation activities.

Release Information

A release of approximately 210 barrels (bbls) of produced water was discovered at the MC COM #160 site on September 10, 2021. The release was caused by the failure of a reducer fitting of an aboveground pipe downstream of the produced water pump which resulted in the release of the produced water into the lined containment area at the facility. Following the recovery of approximately 210 bbls of produced water by vacuum truck, areas of the containment liner were found to be compromised and liquid was observed on the ground surface emanating from the northwest corner of the containment area. No liquids were observed to have migrated off the facility pad.

A prior release by the well operator, Enduring Resources, was discovered on March 18, 2019, and assigned incident number NCS1909448080. The 10 bbl crude oil release impacted a portion of the Whiptail release area. According to the closure report, the remediation did not address the reclamation requirements and residual impacts would be addressed once the areas were no longer in use or at final abandonment. The closure for incident NCS1909448080 was approved on June 27, 2019. The residual impact from this release is likely to affect the outcome of the remediation of the Whiptail release.

The Site is located in Unit Letter I, Section 35, Township 24 North, Range 07 West, in Rio Arriba County, New Mexico at approximately 36.265271, -107.537467 (NAD 83). A topographic site map is included as Figure 1, an aerial site map is included as Figure 2, and a depiction of the observed release extents is included as Figure 3.

Remediation Closure Criteria Determination / Site Characterization

The Closure Criteria for the area impacted by the release are described in Table I of 19.15.29.12 New Mexico Administrative Code (NMAC). The criteria are based upon depth to groundwater at the release site and proximity relative to sensitive receptors as described in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Depth to Groundwater / Wellhead Protection Area

Depth to groundwater is approximately 142 feet below grade surface (bgs) at the Site based upon the cathodic well record for this facility. A search of the New Mexico Office of the State Engineer's (NMOSE) New Mexico Water Rights Reporting System (NMWRRS) did not yield any results for registered points of diversion (PODs) within 0.5 mile of the Site. The cathodic well log, NMWRRS search results, and NMOSE POD map of the vicinity are included in Appendix A.

Distance to Significant Watercourse

The release area is located approximately 533 feet east of a small livestock pond which is cross-gradient from the release area. In the down gradient direction, the nearest surface water drainage feature is located approximately 787 feet to the north of the site.

Sensitive Receptors

The proximity of the release location to sensitive receptors as described in Paragraph (4) of Subsection C of 19.15.29.12 NMAC is assessed in the following table:

19.15.29.12(C)(4). If a release occurs within the following areas, the responsible party must treat the release as if it occurred less than 50 feet to ground water in Table I of 19.15.29.12 NMAC:		
<i>Description</i>	<i>Y/N</i>	<i>Reference</i>
(a) Within (i) 300 feet of any continuously flowing watercourse or any other significant watercourse, or (ii) 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark);	No	Figures 1 and 2
(b) Within 300 feet from an occupied permanent residence, school, hospital, institution or church;	No	Figure 2
(c) Within (i) 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or (ii) 1,000 feet of any fresh water well or spring;	No	Figures 1 and 2, Appendix A
(d) Within incorporated municipal boundaries or within a defined fresh water well field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves;	No	Figure 1

(e) Within 300 feet of a wetland;	No	Figure 1 and Appendix B
(f) Within the area overlying a subsurface mine;	No	Appendix C
(g) Within an unstable area; or	No	Appendix C
(h) Within a 100-year floodplain.	No	Appendix D

Closure Criteria

As demonstrated above, depth to groundwater at the site is greater than 100 feet bgs and the release area is not located within the designated proximity of to the described sensitive receptors. Therefore, the closure criteria for the release are: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total BTEX; 1,000 mg/kg TPH (GRO/DRO); 2,500 mg/kg total TPH (GRO/DRO/MRO); and 20,000 mg/kg chloride. The reclamation requirements of 19.15.29.13 NMAC are also applicable to the upper four feet of the impacted area.

Initial Site Investigation/Remediation

Whiptail retained a third-party consultant, WSP USA (WSP) of Durango, Colorado, for remediation guidance, sampling, and reporting. After the recovery of approximately 210 bbls of liquid from the lined containment utilizing a vacuum truck, the liner was removed to allow for remediation access. Approximately 2- to 4-inches of soil and gravel material was removed from the ground surface within the containment area as well as from the release path outside the containment wall to the northwest using hand tools and a hydrovac. Upon completion of remedial excavation, WSP personnel collected a total of 33 five-point composite samples representing 200 square feet or less of the impacted area. A figure depicting the sample locations is included as Figure 3 and a photograph log of the sampled areas is included in Appendix E.

Samples were delivered to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for analysis including:

- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by United State Environmental Protection Agency (USEPA) Method 8021B;
- Total petroleum hydrocarbons (TPH) as gasoline range organics (GRO), diesel range organics (DRO) and motor oil range organics (MRO) by USEPA Method 8015M/D; and
- Chloride by USEPA Method 300.0.

Laboratory analytical results for the excavation confirmation samples report the following:

- Benzene concentrations are below the laboratory reporting limits which are below the closure criteria of 10 mg/kg.
- Total BTEX concentrations are below the laboratory reporting limits which are below the closure criteria of 50 mg/kg.

- TPH as GRO/DRO concentrations range from below the laboratory reporting limits to 490 mg/kg which are below the closure criteria of 1,000 mg/kg.
- TPH as GRO/DRO/MRO concentrations range from below the laboratory reporting limits to 890 mg/kg which are below the closure criteria of 2,500 mg/kg.
- Chloride concentrations range from below the laboratory reporting limits to 3,100 mg/kg which are below the closure criteria of 20,000 mg/kg.

Laboratory analytical results indicate that concentrations of benzene, total BTEX, TPH as GRO/DRO, TPH as GRO/DRO/MRO, and chlorides are below the closure criteria for all the excavation confirmation samples. Analytical results are summarized in Table 1 and the laboratory report is included in Appendix F. Excavated material was transported for disposal/remediation at Envirotech Landfarm near Hilltop, New Mexico. The excavation area was backfilled with imported, clean earthen material and the liner was replaced within the containment area.

Excavation confirmation sample results demonstrate that the remedial excavation meets the closure criteria of Table I of 19.15.29.12 NMAC. However, the remediation area, while on-pad and in an area reasonably needed for production operations, is within the upper four feet from the surface and is subject to the reclamation standards of 19.15.29.13 NMAC. All except eight confirmation samples (SS07, SS09, SS14, SS23, SS26, SS27, SS28, and SS31) exceed the reclamation requirements. Furthermore, the confirmation samples representing the perimeter of the release area do not demonstrate the horizontal extents of the release per the reclamation standards to the north and east, and portions to the west and south. Therefore, Whiptail proposes additional delineation as described below.

Continued Site Investigation/Delineation

To demonstrate the extents of the residual impacted material in the upper four feet of the release area per reclamation requirements of 19.15.19.13 NMAC, Whiptail proposes to advance 10 soil borings outside the perimeter of the release area as illustrated on Figure 4. Excavation confirmation samples demonstrating concentrations of chloride and TPH below the reclamation standards in the southwest corner of the release area (SS21, SS26, SS27, and SS31) will be used to define that portion of the horizontal extents. Based on photographs and knowledge of the construction of the containment ring at this site, the steel containment ring is buried approximately 6- inches bgs. Therefore, the proposed borings will be advanced to approximately two feet bgs to investigate for possible subsurface horizontal migration of the release fluids at and below this depth.

Samples will be collected at 6-inch intervals from each boring location to the total depth of 2 feet bgs or to auger refusal, whichever is shallower. Samples will be field screened for volatile organic compounds (VOCs) using a calibrated photoionization detector (PID) and for electrical conductivity using a handheld meter. Based on field screening results, additional soil borings will be added to the sampling plan as appropriate. A minimum of two samples from each boring will be submitted to the laboratory for analysis

of BTEX, TPH, and chloride from the sampling interval exhibiting the highest field screening concentrations and from the deepest interval sampled. The continued site investigation analytical results will be evaluated using the reclamation standards to determine if the horizontal extents of the release have been defined and additional delineation will be performed if warranted. Upon completion of the continued site investigation, any reclamation off the pad or in areas not reasonably needed for production operations will be remediated to the reclamation requirements.

Remediation Plan/Additional Remediation

A remediation plan will be submitted detailing the results of the continued site investigation, results of additional remedial excavation if performed, and a request for deferral of final reclamation for areas reasonably needed for production operations. Whiptail anticipates using the reclamation requirement depth of four feet bgs as the vertical extent of impacted material left in place for the deferral request unless otherwise defined during the continued site investigation.

Whiptail appreciates the opportunity to provide this remediation plan for the MC COM #160 (nAPP2125652492) release. Please feel free to contact me with any questions or comments at Heather.Woods@WhiptailMidstream.com or (505) 636-0574.

Sincerely,



Heather M. Woods, PG
EHS Specialist

Figures:

- Figure 1. Topographic Site Map
- Figure 2. Aerial Site Map
- Figure 3. Excavation Confirmation Sample Map
- Figure 4. Proposed Sample Location Map

Table:

- Table 1. Soil Analytical Results

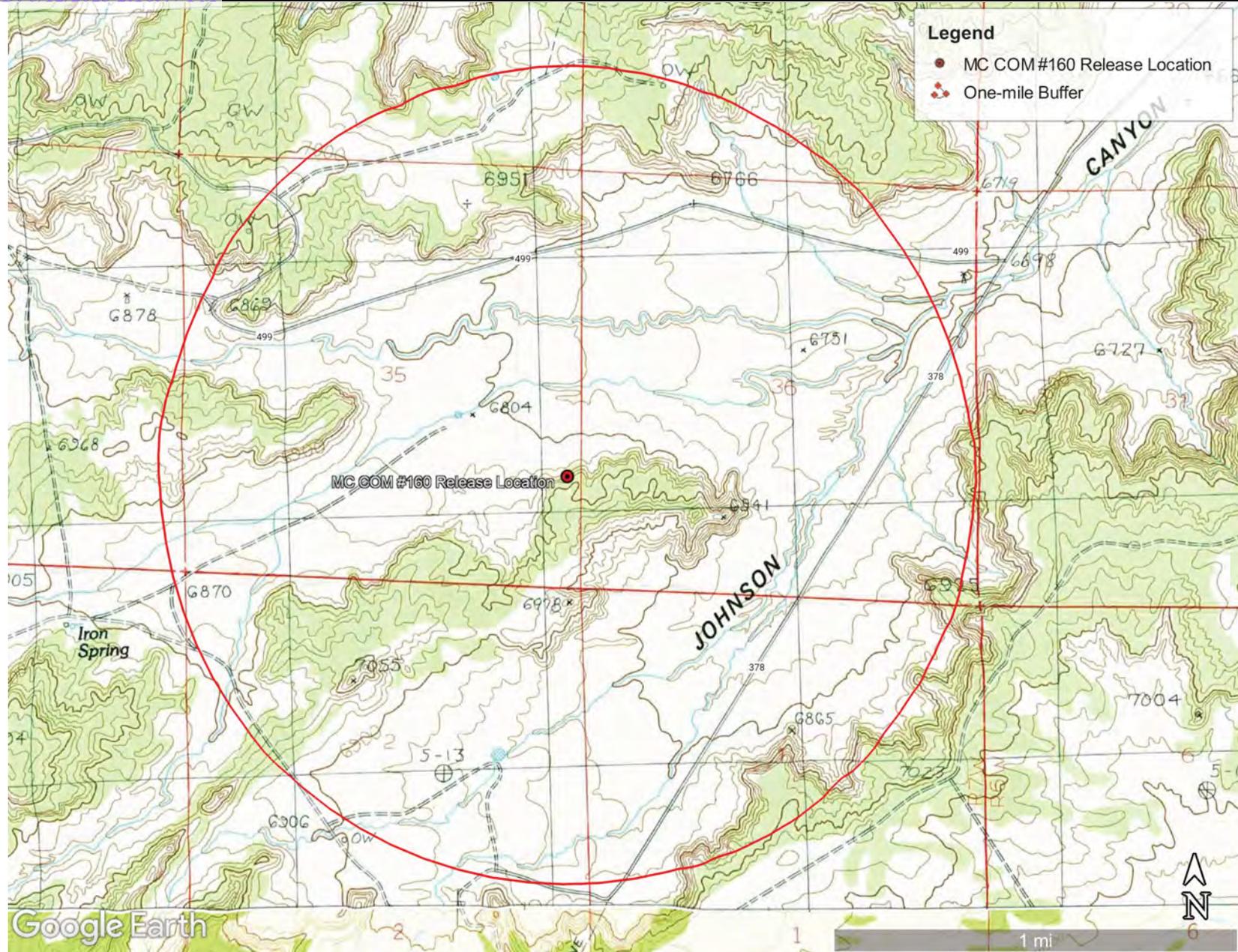
Appendices:

- Appendix A: Well Log and NMOSE Registered Water Well Documentation
- Appendix B: Wetland Map
- Appendix C: Mine Maps
- Appendix D: Floodplain Map
- Appendix E: Photograph Log
- Appendix F: Laboratory Analytical Report

Remediation Plan
MC COM #160 (nAPP2125652492)

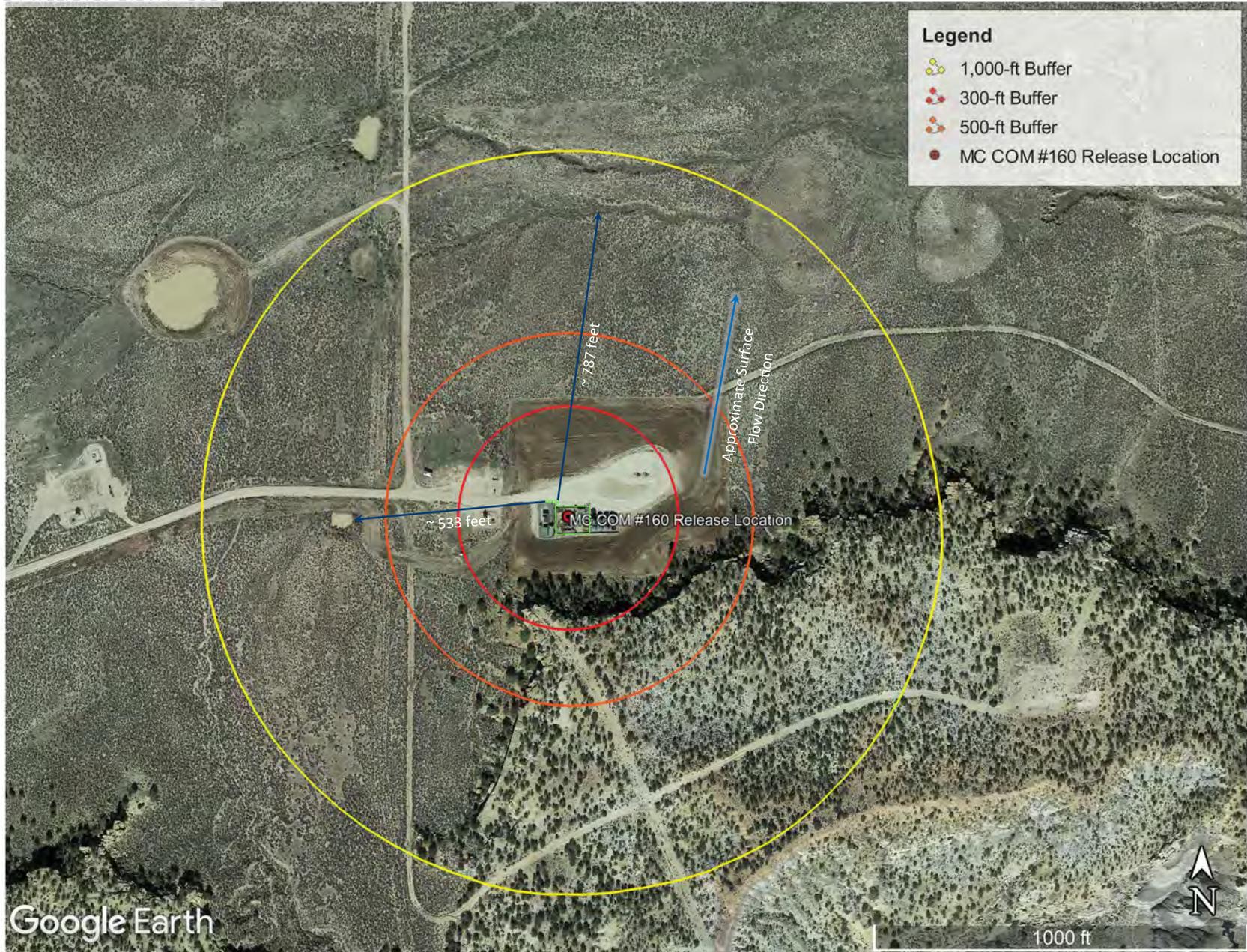
Figures

Figures



MC COM #160
 Whiptail Midstream, LLC
 UL I, S35, T24N R07W NMPM
 Rio Arriba County, New Mexico
 36.265271, -107.537467 (NAD 83)

Figure 1
 Topographic Map



MC COM #160
 Whiptail Midstream, LLC
 UL I, S35, T24N R07W NMPM
 Rio Arriba County, New Mexico
 36.265271, -107.537467 (NAD 83)

Figure 2
 Aerial Site Map

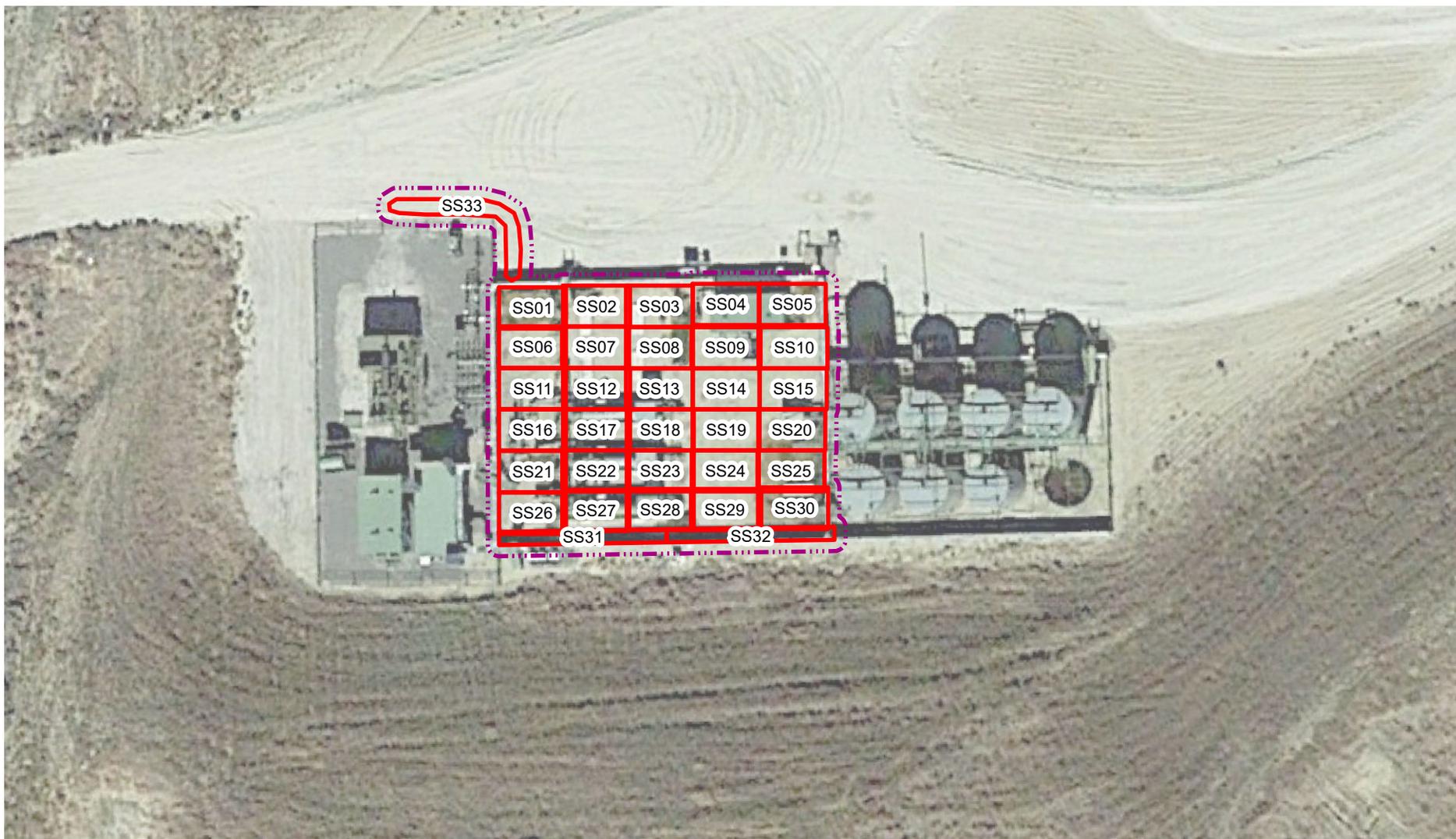


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

-  RELEASE PATH
-  CONFIRMATION SOIL SAMPLE LOCATION

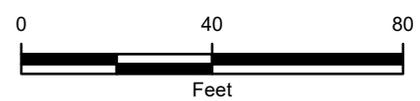


FIGURE 3
CONFIRMATION SOIL SAMPLE LOCATIONS
MC COM #160
NESE SEC 35-T24N-R7W
RIO ARRIBA COUNTY, NEW MEXICO
WHIPTAIL MIDSTREAM, LLC



C:\Users\USTJ689650\OneDrive - WSP\0365\WHIPTAIL ENERGY\31403189_002_MC COM 160\MXD\31403189_002_FIG03_SITE_2021.mxd

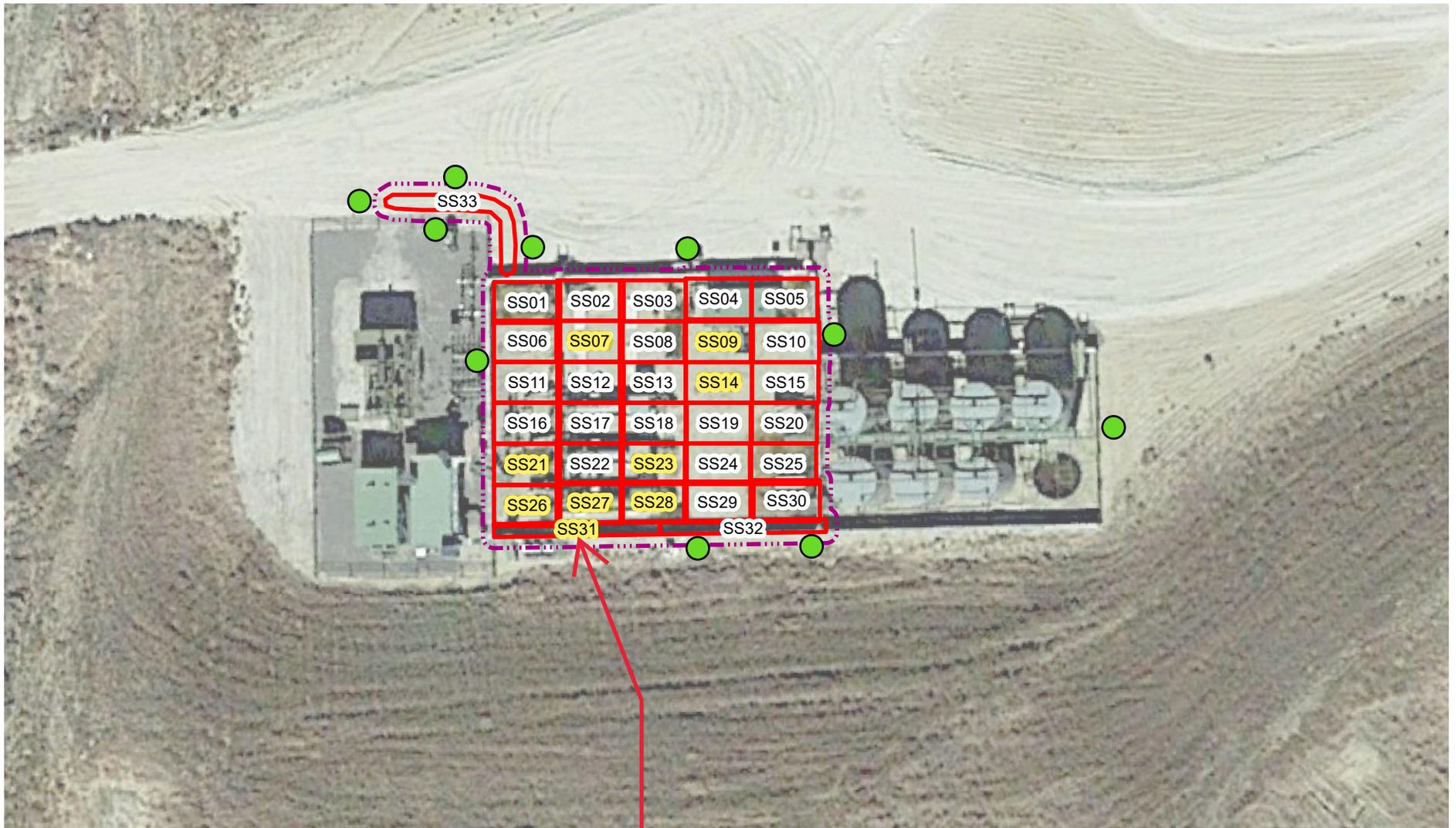


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

-  RELEASE PATH
-  CONFIRMATION SOIL SAMPLE LOCATION
-  PROPOSED SOIL BORING LOCATION

Samples <600 mg/Kg
for chloride - 9 total

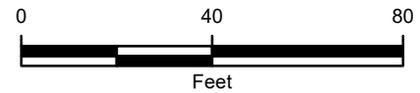


FIGURE 4
PROPOSED SOIL BORING LOCATIONS
 MC COM #160
 NESE SEC 35-T24N-R7W
 RIO ARRIBA COUNTY, NEW MEXICO
 WHIPTAIL MIDSTREAM, LLC

Remediation Plan
MC COM #160 (nAPP2125652492)

Table

Table

**TABLE 1
SOIL ANALYTICAL RESULTS**

**MC COM #160
RIO ARriba COUNTY, NEW MEXICO
WHIPTAIL MIDSTREAM LLC**

Soil Sample Identification	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	GRO+DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
SS01	9/28/2021	<0.12	<0.23	<0.23	<0.47	<0.47	1,700	<23	23	23	<49	23
SS02	9/28/2021	<0.023	<0.046	<0.046	<0.093	<0.093	2,100	<4.6	11	11	<49	11
SS03	9/28/2021	<0.024	<0.049	<0.049	<0.097	<0.097	2,300	<4.9	160	160	190	350
SS04	9/28/2021	<0.024	<0.048	<0.048	<0.097	<0.097	2,500	<4.8	30	30	<48	30
SS05	9/28/2021	<0.025	<0.050	<0.050	<0.10	<0.10	1,400	<5.0	21	21	<49	21
SS06	9/28/2021	<0.023	<0.047	<0.047	<0.094	<0.094	620	<4.7	<9.6	<9.6	<48	<48
SS07	9/28/2021	<0.023	<0.046	<0.046	<0.093	<0.093	380	<4.6	<9.8	<9.8	<49	<49
SS08	9/28/2021	<0.12	<0.24	<0.24	<0.48	<0.48	2,100	<24	210	210	150	360
SS09	9/28/2021	<0.024	<0.048	<0.048	<0.097	<0.097	130	<4.8	<9.9	<9.9	<50	<50
SS10	9/28/2021	<0.012	<0.024	<0.024	<0.048	<0.048	2,200	<24	150	150	130	280
SS11	9/28/2021	<0.012	<0.023	<0.023	<0.047	<0.047	2,700	<23	330	330	270	600
SS12	9/28/2021	<0.024	<0.047	<0.047	<0.095	<0.095	2,100	<4.7	54	54	56	110
SS13	9/28/2021	<0.024	<0.047	<0.047	<0.094	<0.094	860	<4.7	<8.6	<8.6	<43	<43
SS14	9/28/2021	<0.025	<0.049	<0.049	<0.098	<0.098	80	<4.9	<9.2	<9.2	<46	<46
SS15	9/28/2021	<0.012	<0.024	<0.024	<0.048	<0.048	2,200	<24	150	150	130	280
SS16	9/28/2021	<0.025	<0.050	<0.050	<0.10	<0.10	870	<5.0	47	47	61	108
SS17	9/28/2021	<0.025	<0.049	<0.049	<0.099	<0.099	2,100	<4.9	92	92	130	222
SS18	9/28/2021	<0.024	<0.048	<0.048	<0.097	<0.097	630	<4.8	76	76	140	216
SS19	9/28/2021	<0.024	<0.047	<0.047	<0.095	<0.095	1,500	<4.7	9.8	9.8	<46	9.8
SS20	9/28/2021	<0.025	<0.050	<0.050	<0.099	<0.099	3,100	<5.0	70	70	67	137
SS21	9/28/2021	<0.024	<0.048	<0.048	<0.097	<0.097	520	<4.8	10	10	<44	10
SS22	9/28/2021	<0.012	<0.024	<0.024	<0.048	<0.048	960	<24	150	150	150	300
SS23	9/28/2021	<0.024	<0.047	<0.047	<0.095	<0.095	230	<4.7	<9.1	<9.1	<46	<46
SS24	9/28/2021	<0.012	<0.024	<0.024	<0.048	<0.048	1,400	<24	290	290	250	540
SS25	9/28/2021	<0.012	<0.024	<0.024	<0.047	<0.047	3,000	<24	490	490	400	890
SS26	9/28/2021	<0.024	<0.048	<0.048	<0.096	<0.096	190	<4.8	13	13	<48	13
SS27	9/28/2021	<0.025	<0.050	<0.050	<0.099	<0.099	550	<5.0	<9.1	<9.1	<45	<45
SS28	9/28/2021	<0.025	<0.050	<0.050	<0.10	<0.10	140	<5.0	<9.4	<9.4	<47	<47

TABLE 1
SOIL ANALYTICAL RESULTS
MC COM #160
RIO ARRIBA COUNTY, NEW MEXICO
WHIPTAIL MIDSTREAM LLC

Soil Sample Identification	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	GRO+DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
SS29	9/28/2021	<0.024	<0.048	<0.048	<0.097	<0.097	2,200	<4.8	150	150	180	330
SS30	9/28/2021	<0.12	<0.24	<0.24	<0.48	<0.48	3,100	<24	300	300	230	530
SS31	9/28/2021	<0.024	<0.049	<0.049	<0.098	<0.098	<60	<4.9	<9.6	<9.6	<48	<48
SS32	9/28/2021	<0.12	<0.24	<0.24	<0.49	<0.49	1,600	<24	240	240	230	470
SS33	9/28/2021	<0.024	<0.048	<0.048	<0.096	<0.049	2,500	<4.8	<9.8	<9.8	<49	<49
NMOCD Closure Criteria		10	NE	NE	NE	50	20,000	NE	NE	1,000	NE	2,500

NOTES:

BTEX - benzene, toluene, ethylbenzene, and total xylenes analyzed by US EPA Method 8021B

DRO - diesel range organics analyzed by US EPA Method 8015D

GRO - gasoline range organics analyzed by US EPA Method 8015D

mg/kg - milligrams per kilogram

MRO - motor oil range organics analyzed by US EPA method 8015D

NE - not established

NMOCD - New Mexico Oil Conservation Division

TPH - total petroleum hydrocarbon (sum of GRO, DRO, and MRO)

< - indicates result is less than the stated laboratory reporting limit

Bold - indicates value exceeds stated NMOCD Closure Criteria

Remediation Plan
MC COM #160 (nAPP2125652492)

Appendix A

Appendix A: Well Log and NMOSE Registered Water Well Documentation

Ground Bed Drilling Log

Company: WPX Energy Well: Chaco #159H #160H #190H Date: 9-11-2015
 Location: Sec 35 T4N R7W State: New Mexico Rig: String #1
 Ground Bed Depth: 360' Water Depth: 142' Diameter: 10"
 Fuel: 98 gal Latitude: _____ Longitude: _____

DEPTH	FORMATION	OTHER
<u>0-40</u>	Sand Stone, Shale, Sand w/ Shale w/ Sand	<u>PVC</u>
<u>40-110</u>	<u>Sand Stone</u> Shale, Sand w/ Shale w/ Sand	_____
<u>110-200</u>	Sand Stone, Shale, <u>Sand w/ Shale w/ Sand</u>	_____
<u>200-260</u>	Sand Stone, <u>Shale</u> , Sand w/ Shale w/ Sand	_____
<u>260-360</u>	Sand Stone, Shale, <u>Sand w/ Shale w/ Sand</u>	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____
_____	Sand Stone, Shale, Sand w/ Shale w/ Sand	_____

Company: <u>WPX Energy</u>		Location: <u>Chaco #159H #160H #190H</u>	
Probe type: <u>Powerwell</u>		<u>Sounder</u>	
Date	Time	Depth	Comments
<u>9-11-15</u>	<u>7:30am</u>	<u>40'</u>	<u>Drilled 40'</u>
	<u>8:30am</u>	<u>40'</u>	<u>test: No water</u>
	<u>9:00</u>	<u>160'</u>	<u>Drilled 160' - set PVC</u>
	<u>10:00</u>	<u>160'</u>	<u>test: No water</u>
	<u>11:15</u>	<u>115'</u>	<u>Drilled 115'</u>
	<u>12:15</u>	<u>115'</u>	<u>test: no water</u>
	<u>4:30</u>	<u>360'</u>	<u>test water @ 142'</u>
<u>9-14-15</u>	<u>9:15</u>	<u>142'</u>	<u>test water @ 142'</u>
	<u>11:45</u>		<u>Finished made bed.</u>



MC 6 COM 918H
MC 6 COM 160H
MC 6 COM 918H

Cathodic Well - Water @ 142'
Cathodic Well - Water @ 142'

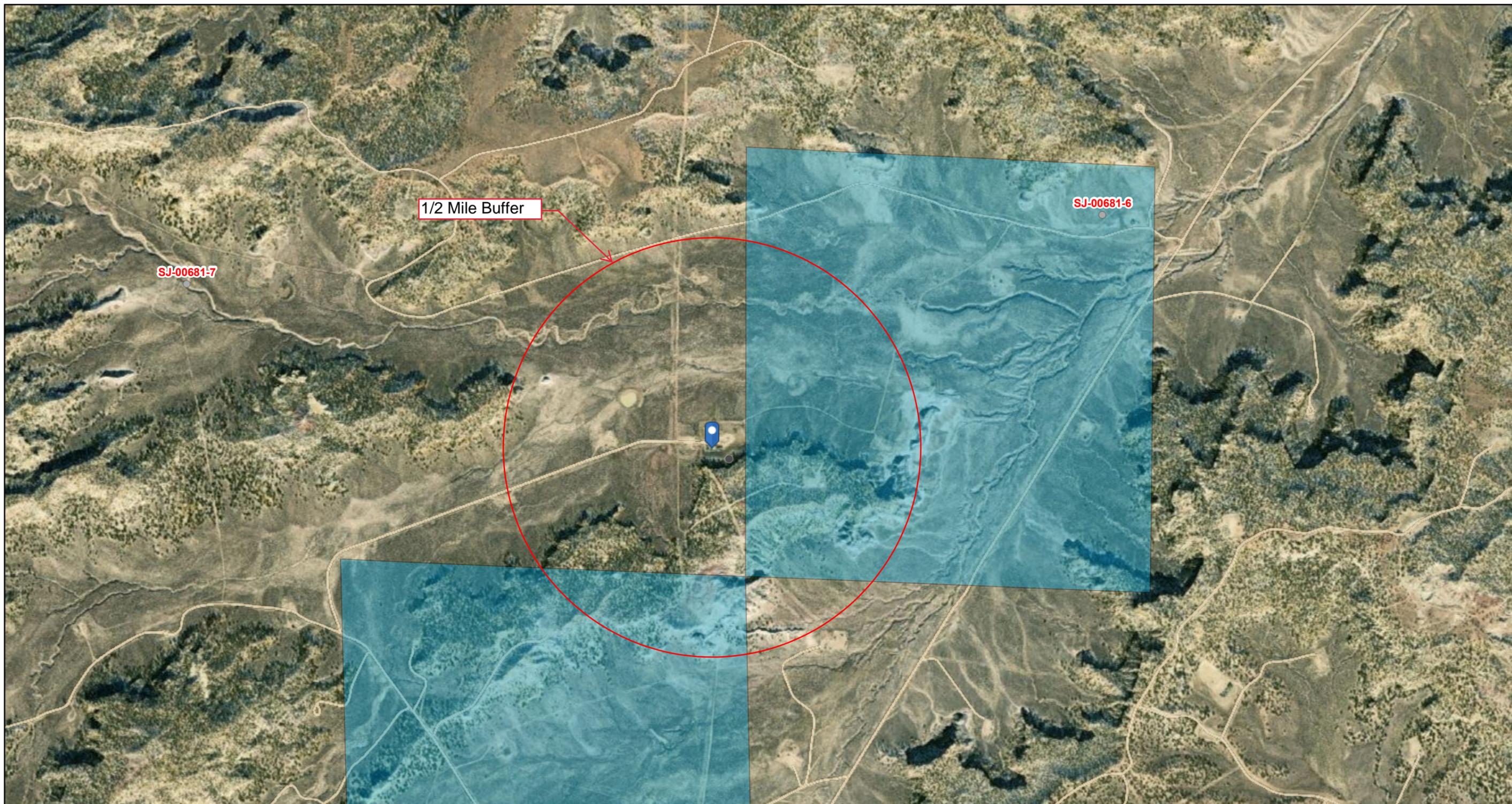
252 ft

© 2018 Google

Google Earth

January 10, 2017 36°15'56.20" N 107°33'20.79" W elev: 6319 ft eye alt: 25997 ft

MC COM #160 OSE POD Locations Map



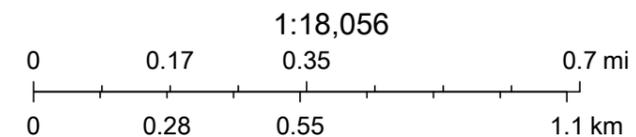
4/11/2023, 10:41:12 AM

GIS WATERS PODs

• GIS WATERS PODs

New Mexico State Trust Lands

Both Estates



Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar



New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 1, 2

Township: 23N

Range: 07W

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.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 35, 36

Township: 24N

Range: 07W

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.

5/11/23 11:42 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

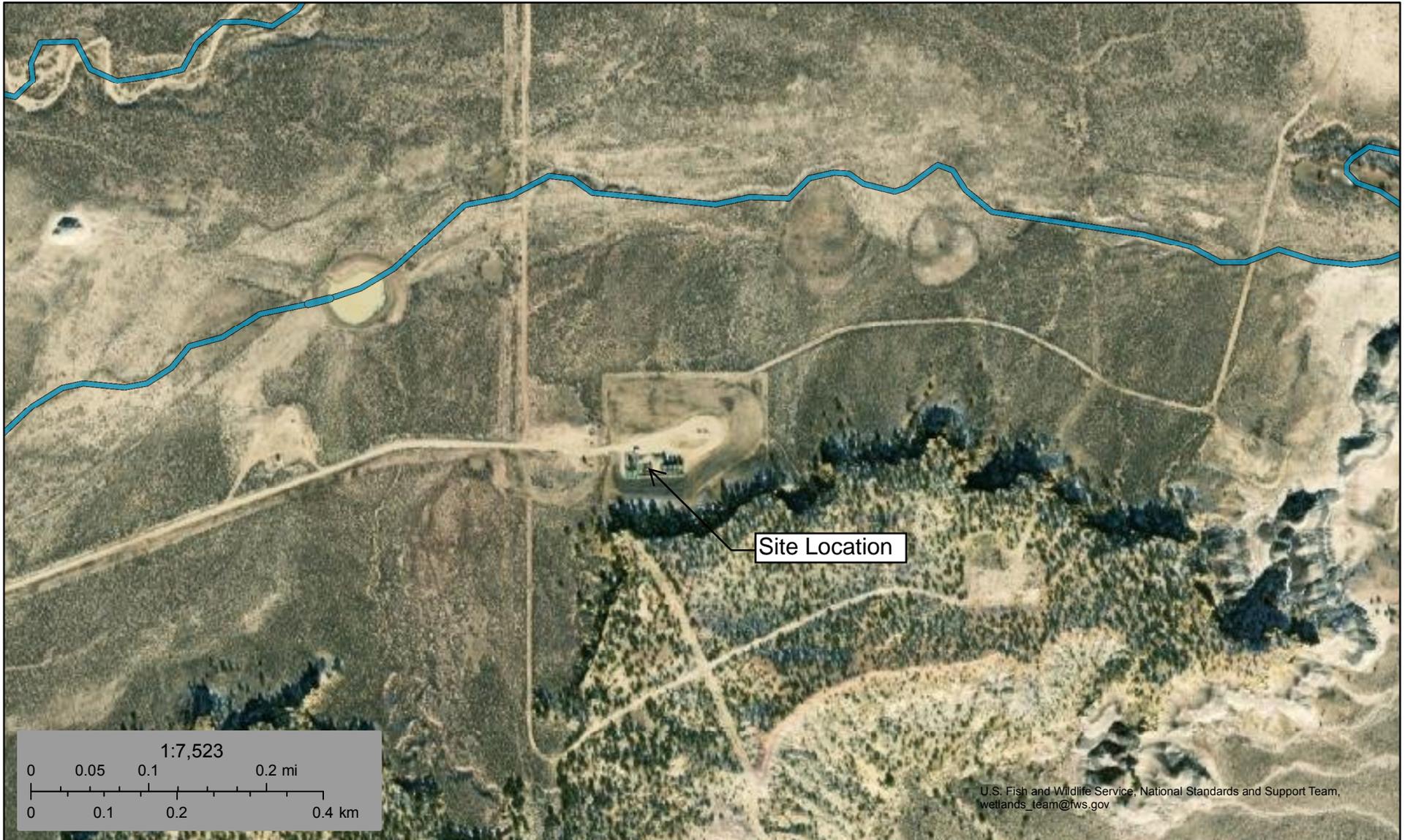
Remediation Plan
MC COM #160 (nAPP2125652492)

Table

Appendix B: Wetland Map



MC COM #160 Wetland Map



April 11, 2023

Wetlands

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Remediation Plan
MC COM #160 (nAPP2125652492)

Table

Appendix C: Mine Maps

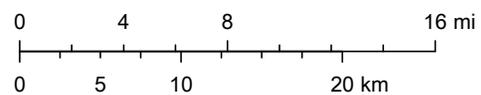
Active Mines in New Mexico



5/11/2023, 12:36:18 PM

1:577,791

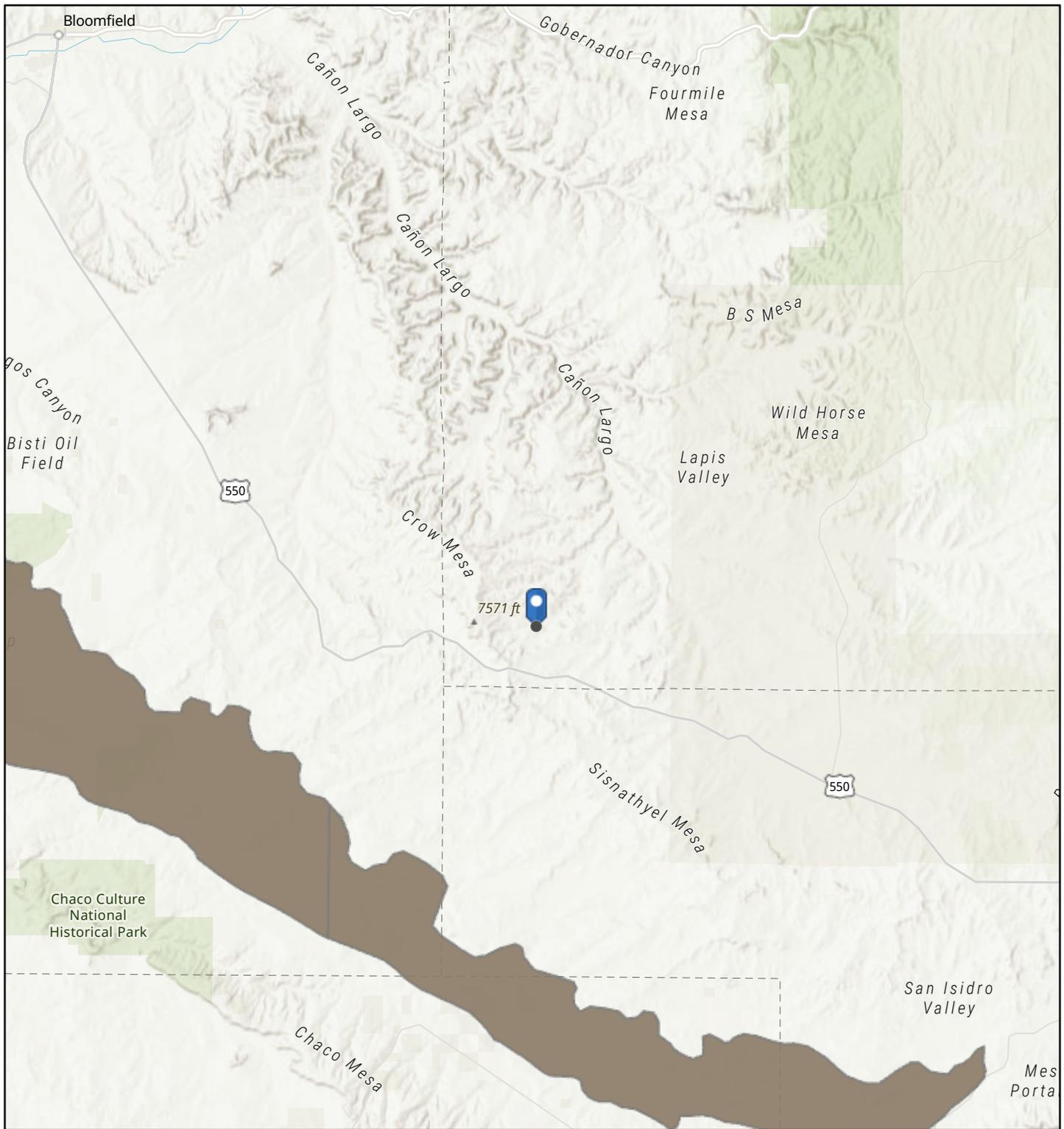
Registered Mines



- x Aggregate, Stone etc.
- x Humate

Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

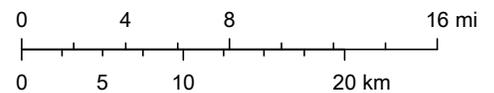
Coal Mines in New Mexico



5/11/2023, 12:43:35 PM

1:577,791

 NM Coal Districts



NM Coal Mine Reclamation Program, NM EMNRD, Esri, CGIAR, USGS, New Mexico State University, San Juan County, NM, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS

EMNRD MMD GIS Coordinator

Remediation Plan
MC COM #160 (nAPP2125652492)

Table

Appendix D: Floodplain Map

National Flood Hazard Layer FIRMMette



107°32'36"W 36°16'11"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, V, A99
 - With BFE or Depth Zone AE, AO, AH, VE, AR
 - Regulatory Floodway
 - OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D
 - OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D
 - GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall
 - OTHER FEATURES**
 - Cross Sections with 1% Annual Chance Water Surface Elevation: 20.2 (B), 17.5
 - Coastal Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature
 - MAP PANELS**
 - Digital Data Available
 - No Digital Data Available
 - Unmapped
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

Remediation Plan
MC COM #160 (nAPP2125652492)

Table

Appendix E: Photograph Log



PHOTOGRAPHIC LOG		
WHIPTAIL MIDSTREAM LLC	MC COM #160 RIO ARRIBA COUNTY, NEW MEXICO	31403189.002

Photo No.	Date	
1	9/28/2021	
View of excavated area where release breached containment. Area where SS33 was collected (looking west)		

Photo No.	Date	
2	9/28/2021	
View of the center of the release/excavation area within the containment, showing various soil sample locations (looking south).		



PHOTOGRAPHIC LOG		
WHIPTAIL MIDSTREAM LLC	MC COM #160 RIO ARRIBA COUNTY, NEW MEXICO	31403189.002

Photo No.	Date	
3	9/28/2021	
<p>View of the eastern side of the release/excavation area within the containment, showing various soil sample locations (looking east).</p>		

Photo No.	Date	
4	9/28/2021	
<p>View of the western side of the release/excavation area within the containment, showing various soil sample locations (looking southwest).</p>		

Continued Photograph Log
MC COM #160

Page 3

Photo: 5	
Location: MC COM #160	
Incident Number: nAPP2125652492	
Date Taken: 9/16/2021	
Description:	View looking west demonstrating the burial depth of the corrugated steel ring containment wall to be approximately 6-inches below ground surface.

Remediation Plan
MC COM #160 (nAPP2125652492)

Table

Appendix F: Laboratory Analytical Report



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

October 15, 2021

Brooke Herb
WSP
848 East 2nd Avenue
Durango, CO 81301
TEL: (970) 946-1093
FAX

RE: MC COM 160

OrderNo.: 2109H25

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 33 sample(s) on 9/30/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS01

Project: MC COM 160

Collection Date: 9/28/2021 2:20:00 PM

Lab ID: 2109H25-001

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	23	9.7		mg/Kg	1	10/7/2021 9:22:47 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/7/2021 9:22:47 PM
Surr: DNOP	110	70-130		%Rec	1	10/7/2021 9:22:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	23		mg/Kg	5	10/5/2021 10:55:40 PM
Surr: BFB	98.3	70-130		%Rec	5	10/5/2021 10:55:40 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.12		mg/Kg	5	10/5/2021 10:55:40 PM
Toluene	ND	0.23		mg/Kg	5	10/5/2021 10:55:40 PM
Ethylbenzene	ND	0.23		mg/Kg	5	10/5/2021 10:55:40 PM
Xylenes, Total	ND	0.47		mg/Kg	5	10/5/2021 10:55:40 PM
Surr: 4-Bromofluorobenzene	85.3	70-130		%Rec	5	10/5/2021 10:55:40 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	1700	59		mg/Kg	20	10/6/2021 7:00:07 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS02

Project: MC COM 160

Collection Date: 9/28/2021 2:22:00 PM

Lab ID: 2109H25-002

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	11	9.8		mg/Kg	1	10/8/2021 9:53:38 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/8/2021 9:53:38 PM
Surr: DNOP	103	70-130		%Rec	1	10/8/2021 9:53:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/5/2021 11:19:13 PM
Surr: BFB	93.0	70-130		%Rec	1	10/5/2021 11:19:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.023		mg/Kg	1	10/5/2021 11:19:13 PM
Toluene	ND	0.046		mg/Kg	1	10/5/2021 11:19:13 PM
Ethylbenzene	ND	0.046		mg/Kg	1	10/5/2021 11:19:13 PM
Xylenes, Total	ND	0.093		mg/Kg	1	10/5/2021 11:19:13 PM
Surr: 4-Bromofluorobenzene	82.6	70-130		%Rec	1	10/5/2021 11:19:13 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2100	61		mg/Kg	20	10/6/2021 8:02:09 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS03

Project: MC COM 160

Collection Date: 9/28/2021 2:23:00 PM

Lab ID: 2109H25-003

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	160	9.8		mg/Kg	1	10/8/2021 10:17:55 PM
Motor Oil Range Organics (MRO)	190	49		mg/Kg	1	10/8/2021 10:17:55 PM
Surr: DNOP	111	70-130		%Rec	1	10/8/2021 10:17:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/5/2021 11:42:39 PM
Surr: BFB	92.7	70-130		%Rec	1	10/5/2021 11:42:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.024		mg/Kg	1	10/5/2021 11:42:39 PM
Toluene	ND	0.049		mg/Kg	1	10/5/2021 11:42:39 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/5/2021 11:42:39 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/5/2021 11:42:39 PM
Surr: 4-Bromofluorobenzene	82.5	70-130		%Rec	1	10/5/2021 11:42:39 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2300	60		mg/Kg	20	10/6/2021 8:39:23 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS04

Project: MC COM 160

Collection Date: 9/28/2021 2:25:00 PM

Lab ID: 2109H25-004

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	30	9.7		mg/Kg	1	10/8/2021 10:42:14 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/8/2021 10:42:14 PM
Surr: DNOP	108	70-130		%Rec	1	10/8/2021 10:42:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/6/2021 12:06:05 AM
Surr: BFB	94.3	70-130		%Rec	1	10/6/2021 12:06:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.024		mg/Kg	1	10/6/2021 12:06:05 AM
Toluene	ND	0.048		mg/Kg	1	10/6/2021 12:06:05 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/6/2021 12:06:05 AM
Xylenes, Total	ND	0.097		mg/Kg	1	10/6/2021 12:06:05 AM
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	1	10/6/2021 12:06:05 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2500	150		mg/Kg	50	10/7/2021 11:19:13 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH Not In Range
 RL Reporting Limit

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS05

Project: MC COM 160

Collection Date: 9/28/2021 2:27:00 PM

Lab ID: 2109H25-005

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	21	9.9		mg/Kg	1	10/8/2021 11:06:31 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/8/2021 11:06:31 PM
Surr: DNOP	107	70-130		%Rec	1	10/8/2021 11:06:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2021 12:29:29 AM
Surr: BFB	92.1	70-130		%Rec	1	10/6/2021 12:29:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.025		mg/Kg	1	10/6/2021 12:29:29 AM
Toluene	ND	0.050		mg/Kg	1	10/6/2021 12:29:29 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/6/2021 12:29:29 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/6/2021 12:29:29 AM
Surr: 4-Bromofluorobenzene	81.9	70-130		%Rec	1	10/6/2021 12:29:29 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	1400	60		mg/Kg	20	10/6/2021 9:04:11 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS06

Project: MC COM 160

Collection Date: 9/28/2021 2:31:00 PM

Lab ID: 2109H25-006

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/8/2021 11:30:45 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/8/2021 11:30:45 PM
Surr: DNOP	110	70-130		%Rec	1	10/8/2021 11:30:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/6/2021 2:03:08 AM
Surr: BFB	95.2	70-130		%Rec	1	10/6/2021 2:03:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.023		mg/Kg	1	10/6/2021 2:03:08 AM
Toluene	ND	0.047		mg/Kg	1	10/6/2021 2:03:08 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/6/2021 2:03:08 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/6/2021 2:03:08 AM
Surr: 4-Bromofluorobenzene	85.4	70-130		%Rec	1	10/6/2021 2:03:08 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	620	59		mg/Kg	20	10/6/2021 9:16:36 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH Not In Range
 RL Reporting Limit

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS07

Project: MC COM 160

Collection Date: 9/28/2021 2:33:00 PM

Lab ID: 2109H25-007

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/8/2021 11:54:57 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/8/2021 11:54:57 PM
Surr: DNOP	107	70-130		%Rec	1	10/8/2021 11:54:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/6/2021 2:26:29 AM
Surr: BFB	94.8	70-130		%Rec	1	10/6/2021 2:26:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.023		mg/Kg	1	10/6/2021 2:26:29 AM
Toluene	ND	0.046		mg/Kg	1	10/6/2021 2:26:29 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/6/2021 2:26:29 AM
Xylenes, Total	ND	0.093		mg/Kg	1	10/6/2021 2:26:29 AM
Surr: 4-Bromofluorobenzene	84.7	70-130		%Rec	1	10/6/2021 2:26:29 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	380	60		mg/Kg	20	10/6/2021 9:29:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS08

Project: MC COM 160

Collection Date: 9/28/2021 2:35:00 PM

Lab ID: 2109H25-008

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	210	9.4		mg/Kg	1	10/9/2021 12:19:06 AM
Motor Oil Range Organics (MRO)	150	47		mg/Kg	1	10/9/2021 12:19:06 AM
Surr: DNOP	113	70-130		%Rec	1	10/9/2021 12:19:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/6/2021 2:49:58 AM
Surr: BFB	94.7	70-130		%Rec	5	10/6/2021 2:49:58 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.12		mg/Kg	5	10/6/2021 2:49:58 AM
Toluene	ND	0.24		mg/Kg	5	10/6/2021 2:49:58 AM
Ethylbenzene	ND	0.24		mg/Kg	5	10/6/2021 2:49:58 AM
Xylenes, Total	ND	0.48		mg/Kg	5	10/6/2021 2:49:58 AM
Surr: 4-Bromofluorobenzene	85.0	70-130		%Rec	5	10/6/2021 2:49:58 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2100	60		mg/Kg	20	10/6/2021 9:41:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS09

Project: MC COM 160

Collection Date: 9/28/2021 2:37:00 PM

Lab ID: 2109H25-009

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/9/2021 12:43:18 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/9/2021 12:43:18 AM
Surr: DNOP	112	70-130		%Rec	1	10/9/2021 12:43:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/6/2021 3:13:37 AM
Surr: BFB	92.8	70-130		%Rec	1	10/6/2021 3:13:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.024		mg/Kg	1	10/6/2021 3:13:37 AM
Toluene	ND	0.048		mg/Kg	1	10/6/2021 3:13:37 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/6/2021 3:13:37 AM
Xylenes, Total	ND	0.097		mg/Kg	1	10/6/2021 3:13:37 AM
Surr: 4-Bromofluorobenzene	82.6	70-130		%Rec	1	10/6/2021 3:13:37 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	130	60		mg/Kg	20	10/6/2021 9:53:49 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS10

Project: MC COM 160

Collection Date: 9/28/2021 2:39:00 PM

Lab ID: 2109H25-010

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	150	9.1		mg/Kg	1	10/9/2021 1:55:58 AM
Motor Oil Range Organics (MRO)	130	45		mg/Kg	1	10/9/2021 1:55:58 AM
Surr: DNOP	107	70-130		%Rec	1	10/9/2021 1:55:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/5/2021 10:19:00 AM
Surr: BFB	110	70-130		%Rec	5	10/5/2021 10:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 10:19:00 AM
Toluene	ND	0.24		mg/Kg	5	10/5/2021 10:19:00 AM
Ethylbenzene	ND	0.24		mg/Kg	5	10/5/2021 10:19:00 AM
Xylenes, Total	ND	0.48		mg/Kg	5	10/5/2021 10:19:00 AM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	5	10/5/2021 10:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2200	60		mg/Kg	20	10/6/2021 10:31:02 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS11

Project: MC COM 160

Collection Date: 9/28/2021 2:41:00 PM

Lab ID: 2109H25-011

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	330	10		mg/Kg	1	10/9/2021 4:43:12 PM
Motor Oil Range Organics (MRO)	270	50		mg/Kg	1	10/9/2021 4:43:12 PM
Surr: DNOP	115	70-130		%Rec	1	10/9/2021 4:43:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	23		mg/Kg	5	10/5/2021 11:18:00 AM
Surr: BFB	109	70-130		%Rec	5	10/5/2021 11:18:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 11:18:00 AM
Toluene	ND	0.23		mg/Kg	5	10/5/2021 11:18:00 AM
Ethylbenzene	ND	0.23		mg/Kg	5	10/5/2021 11:18:00 AM
Xylenes, Total	ND	0.47		mg/Kg	5	10/5/2021 11:18:00 AM
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	5	10/5/2021 11:18:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2700	150		mg/Kg	50	10/7/2021 11:31:38 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS12

Project: MC COM 160

Collection Date: 9/28/2021 2:43:00 PM

Lab ID: 2109H25-012

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	54	9.6		mg/Kg	1	10/9/2021 3:08:25 AM
Motor Oil Range Organics (MRO)	56	48		mg/Kg	1	10/9/2021 3:08:25 AM
Surr: DNOP	104	70-130		%Rec	1	10/9/2021 3:08:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/5/2021 12:16:00 PM
Surr: BFB	101	70-130		%Rec	1	10/5/2021 12:16:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 12:16:00 PM
Toluene	ND	0.047		mg/Kg	1	10/5/2021 12:16:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/5/2021 12:16:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/5/2021 12:16:00 PM
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	10/5/2021 12:16:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2100	60		mg/Kg	20	10/6/2021 10:55:51 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS13

Project: MC COM 160

Collection Date: 9/28/2021 2:45:00 PM

Lab ID: 2109H25-013

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	10/9/2021 3:32:30 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	10/9/2021 3:32:30 AM
Surr: DNOP	103	70-130		%Rec	1	10/9/2021 3:32:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/5/2021 12:36:00 PM
Surr: BFB	105	70-130		%Rec	1	10/5/2021 12:36:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 12:36:00 PM
Toluene	ND	0.047		mg/Kg	1	10/5/2021 12:36:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/5/2021 12:36:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/5/2021 12:36:00 PM
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	10/5/2021 12:36:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	860	60		mg/Kg	20	10/6/2021 11:08:15 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS14

Project: MC COM 160

Collection Date: 9/28/2021 2:47:00 PM

Lab ID: 2109H25-014

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	10/9/2021 4:20:35 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/9/2021 4:20:35 AM
Surr: DNOP	104	70-130		%Rec	1	10/9/2021 4:20:35 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/5/2021 12:56:00 PM
Surr: BFB	98.8	70-130		%Rec	1	10/5/2021 12:56:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.025		mg/Kg	1	10/5/2021 12:56:00 PM
Toluene	ND	0.049		mg/Kg	1	10/5/2021 12:56:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/5/2021 12:56:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/5/2021 12:56:00 PM
Surr: 4-Bromofluorobenzene	91.1	70-130		%Rec	1	10/5/2021 12:56:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	80	60		mg/Kg	20	10/6/2021 11:20:40 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH Not In Range
 RL Reporting Limit

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS15

Project: MC COM 160

Collection Date: 9/28/2021 2:49:00 PM

Lab ID: 2109H25-015

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	150	9.5		mg/Kg	1	10/9/2021 4:44:36 AM
Motor Oil Range Organics (MRO)	130	47		mg/Kg	1	10/9/2021 4:44:36 AM
Surr: DNOP	108	70-130		%Rec	1	10/9/2021 4:44:36 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/5/2021 1:15:00 PM
Surr: BFB	112	70-130		%Rec	5	10/5/2021 1:15:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 1:15:00 PM
Toluene	ND	0.24		mg/Kg	5	10/5/2021 1:15:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	10/5/2021 1:15:00 PM
Xylenes, Total	ND	0.48		mg/Kg	5	10/5/2021 1:15:00 PM
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	5	10/5/2021 1:15:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2200	60		mg/Kg	20	10/6/2021 11:33:04 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS16

Project: MC COM 160

Collection Date: 9/28/2021 2:50:00 PM

Lab ID: 2109H25-016

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	47	9.5		mg/Kg	1	10/9/2021 5:08:35 AM
Motor Oil Range Organics (MRO)	61	47		mg/Kg	1	10/9/2021 5:08:35 AM
Surr: DNOP	104	70-130		%Rec	1	10/9/2021 5:08:35 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2021 1:35:00 PM
Surr: BFB	101	70-130		%Rec	1	10/5/2021 1:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.025		mg/Kg	1	10/5/2021 1:35:00 PM
Toluene	ND	0.050		mg/Kg	1	10/5/2021 1:35:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2021 1:35:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/5/2021 1:35:00 PM
Surr: 4-Bromofluorobenzene	86.2	70-130		%Rec	1	10/5/2021 1:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	870	60		mg/Kg	20	10/6/2021 11:45:29 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS17

Project: MC COM 160

Collection Date: 9/28/2021 2:42:00 PM

Lab ID: 2109H25-017

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	92	9.5		mg/Kg	1	10/9/2021 4:19:14 PM
Motor Oil Range Organics (MRO)	130	47		mg/Kg	1	10/9/2021 4:19:14 PM
Surr: DNOP	110	70-130		%Rec	1	10/9/2021 4:19:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/5/2021 1:54:00 PM
Surr: BFB	107	70-130		%Rec	1	10/5/2021 1:54:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.025		mg/Kg	1	10/5/2021 1:54:00 PM
Toluene	ND	0.049		mg/Kg	1	10/5/2021 1:54:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/5/2021 1:54:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/5/2021 1:54:00 PM
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	1	10/5/2021 1:54:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2100	59		mg/Kg	20	10/6/2021 11:57:53 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS18

Project: MC COM 160

Collection Date: 9/28/2021 2:53:00 PM

Lab ID: 2109H25-018

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	76	10		mg/Kg	1	10/9/2021 5:32:30 AM
Motor Oil Range Organics (MRO)	140	50		mg/Kg	1	10/9/2021 5:32:30 AM
Surr: DNOP	108	70-130		%Rec	1	10/9/2021 5:32:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/5/2021 2:14:00 PM
Surr: BFB	102	70-130		%Rec	1	10/5/2021 2:14:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 2:14:00 PM
Toluene	ND	0.048		mg/Kg	1	10/5/2021 2:14:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/5/2021 2:14:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/5/2021 2:14:00 PM
Surr: 4-Bromofluorobenzene	92.8	70-130		%Rec	1	10/5/2021 2:14:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	630	60		mg/Kg	20	10/7/2021 12:10:18 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS19

Project: MC COM 160

Collection Date: 9/28/2021 2:56:00 PM

Lab ID: 2109H25-019

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	9.8	9.2		mg/Kg	1	10/9/2021 5:56:26 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/9/2021 5:56:26 AM
Surr: DNOP	104	70-130		%Rec	1	10/9/2021 5:56:26 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/5/2021 2:34:00 PM
Surr: BFB	107	70-130		%Rec	1	10/5/2021 2:34:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 2:34:00 PM
Toluene	ND	0.047		mg/Kg	1	10/5/2021 2:34:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/5/2021 2:34:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/5/2021 2:34:00 PM
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	10/5/2021 2:34:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	1500	60		mg/Kg	20	10/7/2021 12:22:42 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS20

Project: MC COM 160

Collection Date: 9/28/2021 2:57:00 PM

Lab ID: 2109H25-020

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	70	9.3		mg/Kg	1	10/9/2021 6:20:13 AM
Motor Oil Range Organics (MRO)	67	47		mg/Kg	1	10/9/2021 6:20:13 AM
Surr: DNOP	105	70-130		%Rec	1	10/9/2021 6:20:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2021 3:33:00 PM
Surr: BFB	101	70-130		%Rec	1	10/5/2021 3:33:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.025		mg/Kg	1	10/5/2021 3:33:00 PM
Toluene	ND	0.050		mg/Kg	1	10/5/2021 3:33:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2021 3:33:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/5/2021 3:33:00 PM
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	10/5/2021 3:33:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	3100	150		mg/Kg	50	10/7/2021 11:44:02 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS21

Project: MC COM 160

Collection Date: 9/28/2021 2:59:00 PM

Lab ID: 2109H25-021

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	10	8.9		mg/Kg	1	10/9/2021 6:43:51 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/9/2021 6:43:51 AM
Surr: DNOP	105	70-130		%Rec	1	10/9/2021 6:43:51 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/5/2021 3:52:00 PM
Surr: BFB	96.1	70-130		%Rec	1	10/5/2021 3:52:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 3:52:00 PM
Toluene	ND	0.048		mg/Kg	1	10/5/2021 3:52:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/5/2021 3:52:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/5/2021 3:52:00 PM
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	1	10/5/2021 3:52:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	520	60		mg/Kg	20	10/7/2021 2:32:16 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS22

Project: MC COM 160

Collection Date: 9/28/2021 3:00:00 PM

Lab ID: 2109H25-022

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	150	9.6		mg/Kg	1	10/9/2021 7:07:36 AM
Motor Oil Range Organics (MRO)	150	48		mg/Kg	1	10/9/2021 7:07:36 AM
Surr: DNOP	114	70-130		%Rec	1	10/9/2021 7:07:36 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/5/2021 4:12:00 PM
Surr: BFB	110	70-130		%Rec	5	10/5/2021 4:12:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 4:12:00 PM
Toluene	ND	0.24		mg/Kg	5	10/5/2021 4:12:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	10/5/2021 4:12:00 PM
Xylenes, Total	ND	0.48		mg/Kg	5	10/5/2021 4:12:00 PM
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	5	10/5/2021 4:12:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	960	60		mg/Kg	20	10/7/2021 3:09:29 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS23

Project: MC COM 160

Collection Date: 9/28/2021 3:02:00 PM

Lab ID: 2109H25-023

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	10/9/2021 7:31:21 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/9/2021 7:31:21 AM
Surr: DNOP	103	70-130		%Rec	1	10/9/2021 7:31:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/5/2021 4:32:00 PM
Surr: BFB	102	70-130		%Rec	1	10/5/2021 4:32:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 4:32:00 PM
Toluene	ND	0.047		mg/Kg	1	10/5/2021 4:32:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/5/2021 4:32:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/5/2021 4:32:00 PM
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	10/5/2021 4:32:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	230	60		mg/Kg	20	10/7/2021 3:46:45 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS24

Project: MC COM 160

Collection Date: 9/28/2021 3:04:00 PM

Lab ID: 2109H25-024

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	290	9.9		mg/Kg	1	10/9/2021 7:55:13 AM
Motor Oil Range Organics (MRO)	250	50		mg/Kg	1	10/9/2021 7:55:13 AM
Surr: DNOP	107	70-130		%Rec	1	10/9/2021 7:55:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/5/2021 4:51:00 PM
Surr: BFB	108	70-130		%Rec	5	10/5/2021 4:51:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 4:51:00 PM
Toluene	ND	0.24		mg/Kg	5	10/5/2021 4:51:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	10/5/2021 4:51:00 PM
Xylenes, Total	ND	0.48		mg/Kg	5	10/5/2021 4:51:00 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	5	10/5/2021 4:51:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	1400	60		mg/Kg	20	10/7/2021 3:59:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS25

Project: MC COM 160

Collection Date: 9/28/2021 3:06:00 PM

Lab ID: 2109H25-025

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	490	9.8		mg/Kg	1	10/9/2021 5:07:10 PM
Motor Oil Range Organics (MRO)	400	49		mg/Kg	1	10/9/2021 5:07:10 PM
Surr: DNOP	114	70-130		%Rec	1	10/9/2021 5:07:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/5/2021 5:11:00 PM
Surr: BFB	113	70-130		%Rec	5	10/5/2021 5:11:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 5:11:00 PM
Toluene	ND	0.24		mg/Kg	5	10/5/2021 5:11:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	10/5/2021 5:11:00 PM
Xylenes, Total	ND	0.47		mg/Kg	5	10/5/2021 5:11:00 PM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	5	10/5/2021 5:11:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	3000	150		mg/Kg	50	10/8/2021 7:18:20 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS26

Project: MC COM 160

Collection Date: 9/28/2021 3:10:00 PM

Lab ID: 2109H25-026

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	13	9.6		mg/Kg	1	10/9/2021 8:19:07 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/9/2021 8:19:07 AM
Surr: DNOP	102	70-130		%Rec	1	10/9/2021 8:19:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/5/2021 5:30:00 PM
Surr: BFB	100	70-130		%Rec	1	10/5/2021 5:30:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 5:30:00 PM
Toluene	ND	0.048		mg/Kg	1	10/5/2021 5:30:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/5/2021 5:30:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/5/2021 5:30:00 PM
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	1	10/5/2021 5:30:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	190	60		mg/Kg	20	10/7/2021 7:42:36 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS27

Project: MC COM 160

Collection Date: 9/28/2021 3:11:00 PM

Lab ID: 2109H25-027

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	10/9/2021 8:43:06 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/9/2021 8:43:06 AM
Surr: DNOP	100	70-130		%Rec	1	10/9/2021 8:43:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2021 5:50:00 PM
Surr: BFB	100	70-130		%Rec	1	10/5/2021 5:50:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.025		mg/Kg	1	10/5/2021 5:50:00 PM
Toluene	ND	0.050		mg/Kg	1	10/5/2021 5:50:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2021 5:50:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/5/2021 5:50:00 PM
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	1	10/5/2021 5:50:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	550	60		mg/Kg	20	10/7/2021 7:55:01 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS28

Project: MC COM 160

Collection Date: 9/28/2021 3:12:00 PM

Lab ID: 2109H25-028

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/9/2021 9:07:03 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/9/2021 9:07:03 AM
Surr: DNOP	102	70-130		%Rec	1	10/9/2021 9:07:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2021 6:10:00 PM
Surr: BFB	97.7	70-130		%Rec	1	10/5/2021 6:10:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.025		mg/Kg	1	10/5/2021 6:10:00 PM
Toluene	ND	0.050		mg/Kg	1	10/5/2021 6:10:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2021 6:10:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/5/2021 6:10:00 PM
Surr: 4-Bromofluorobenzene	88.8	70-130		%Rec	1	10/5/2021 6:10:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	140	61		mg/Kg	20	10/7/2021 8:07:26 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS29

Project: MC COM 160

Collection Date: 9/28/2021 3:14:00 PM

Lab ID: 2109H25-029

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	150	9.8		mg/Kg	1	10/9/2021 9:31:03 AM
Motor Oil Range Organics (MRO)	180	49		mg/Kg	1	10/9/2021 9:31:03 AM
Surr: DNOP	107	70-130		%Rec	1	10/9/2021 9:31:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/5/2021 6:29:00 PM
Surr: BFB	97.9	70-130		%Rec	1	10/5/2021 6:29:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 6:29:00 PM
Toluene	ND	0.048		mg/Kg	1	10/5/2021 6:29:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/5/2021 6:29:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/5/2021 6:29:00 PM
Surr: 4-Bromofluorobenzene	86.7	70-130		%Rec	1	10/5/2021 6:29:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	2200	60		mg/Kg	20	10/7/2021 8:19:51 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH Not In Range
 RL Reporting Limit

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS30

Project: MC COM 160

Collection Date: 9/28/2021 3:15:00 PM

Lab ID: 2109H25-030

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	300	9.6		mg/Kg	1	10/5/2021 12:11:12 PM
Motor Oil Range Organics (MRO)	230	48		mg/Kg	1	10/5/2021 12:11:12 PM
Surr: DNOP	110	70-130		%Rec	1	10/5/2021 12:11:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/5/2021 8:27:00 PM
Surr: BFB	103	70-130		%Rec	5	10/5/2021 8:27:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 8:27:00 PM
Toluene	ND	0.24		mg/Kg	5	10/5/2021 8:27:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	10/5/2021 8:27:00 PM
Xylenes, Total	ND	0.48		mg/Kg	5	10/5/2021 8:27:00 PM
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	5	10/5/2021 8:27:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	3100	150		mg/Kg	50	10/8/2021 7:30:45 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS31

Project: MC COM 160

Collection Date: 9/28/2021 3:17:00 PM

Lab ID: 2109H25-031

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/5/2021 3:21:38 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/5/2021 3:21:38 PM
Surr: DNOP	102	70-130		%Rec	1	10/5/2021 3:21:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/5/2021 9:26:00 PM
Surr: BFB	100	70-130		%Rec	1	10/5/2021 9:26:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 9:26:00 PM
Toluene	ND	0.049		mg/Kg	1	10/5/2021 9:26:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/5/2021 9:26:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/5/2021 9:26:00 PM
Surr: 4-Bromofluorobenzene	88.3	70-130		%Rec	1	10/5/2021 9:26:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	10/7/2021 8:44:40 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS32

Project: MC COM 160

Collection Date: 9/28/2021 3:19:00 PM

Lab ID: 2109H25-032

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	240	10		mg/Kg	1	10/5/2021 2:33:53 PM
Motor Oil Range Organics (MRO)	230	50		mg/Kg	1	10/5/2021 2:33:53 PM
Surr: DNOP	109	70-130		%Rec	1	10/5/2021 2:33:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	10/5/2021 10:25:00 PM
Surr: BFB	111	70-130		%Rec	5	10/5/2021 10:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.12		mg/Kg	5	10/5/2021 10:25:00 PM
Toluene	ND	0.24		mg/Kg	5	10/5/2021 10:25:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	10/5/2021 10:25:00 PM
Xylenes, Total	ND	0.49		mg/Kg	5	10/5/2021 10:25:00 PM
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	5	10/5/2021 10:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	1600	60		mg/Kg	20	10/7/2021 8:57:05 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH Not In Range
 RL Reporting Limit

Analytical Report

Lab Order **2109H25**

Date Reported: **10/15/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP

Client Sample ID: SS33

Project: MC COM 160

Collection Date: 9/28/2021 3:20:00 PM

Lab ID: 2109H25-033

Matrix: SOIL

Received Date: 9/30/2021 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/5/2021 3:45:33 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/5/2021 3:45:33 PM
Surr: DNOP	104	70-130		%Rec	1	10/5/2021 3:45:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/5/2021 10:44:00 PM
Surr: BFB	102	70-130		%Rec	1	10/5/2021 10:44:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	10/5/2021 10:44:00 PM
Toluene	ND	0.048		mg/Kg	1	10/5/2021 10:44:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/5/2021 10:44:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/5/2021 10:44:00 PM
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	10/5/2021 10:44:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2500	150		mg/Kg	50	10/8/2021 7:43:10 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: MB-63095	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 63095	RunNo: 81853								
Prep Date: 10/6/2021	Analysis Date: 10/6/2021	SeqNo: 2895821	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-63095	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 63095	RunNo: 81853								
Prep Date: 10/6/2021	Analysis Date: 10/6/2021	SeqNo: 2895822	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Sample ID: MB-63116	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 63116	RunNo: 81856								
Prep Date: 10/7/2021	Analysis Date: 10/7/2021	SeqNo: 2896811	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-63116	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 63116	RunNo: 81856								
Prep Date: 10/7/2021	Analysis Date: 10/7/2021	SeqNo: 2896812	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	90	110			

Sample ID: MB-63118	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 63118	RunNo: 81856								
Prep Date: 10/7/2021	Analysis Date: 10/7/2021	SeqNo: 2896850	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-63118	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 63118	RunNo: 81856								
Prep Date: 10/7/2021	Analysis Date: 10/7/2021	SeqNo: 2896851	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: MB-63018	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 63018	RunNo: 81800								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2896369	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		118	70	130			

Sample ID: LCS-63018	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 63018	RunNo: 81800								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2896370	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.8	68.9	135			
Surr: DNOP	5.7		5.000		113	70	130			

Sample ID: 2109H25-030AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS30	Batch ID: 63018	RunNo: 81800								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2896372	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	370	9.7	48.31	297.3	147	39.3	155			
Surr: DNOP	6.0		4.831		124	70	130			

Sample ID: 2109H25-030AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS30	Batch ID: 63018	RunNo: 81800								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2896373	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	330	10	49.80	297.3	61.5	39.3	155	11.6	23.4	
Surr: DNOP	6.0		4.980		120	70	130	0	0	

Sample ID: MB-62999	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 62999	RunNo: 81862								
Prep Date: 10/4/2021	Analysis Date: 10/7/2021	SeqNo: 2897828	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		129	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: LCS-62999	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 62999	RunNo: 81862								
Prep Date: 10/4/2021	Analysis Date: 10/7/2021	SeqNo: 2897829	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	68.9	135			
Surr: DNOP	6.7		5.000		134	70	130			S

Sample ID: MB-63004	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 63004	RunNo: 81862								
Prep Date: 10/4/2021	Analysis Date: 10/9/2021	SeqNo: 2900962	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		123	70	130			

Sample ID: LCS-63004	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 63004	RunNo: 81862								
Prep Date: 10/4/2021	Analysis Date: 10/9/2021	SeqNo: 2900963	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	68.9	135			
Surr: DNOP	6.2		5.000		123	70	130			

Sample ID: 2109H25-010AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS10	Batch ID: 63004	RunNo: 81862								
Prep Date: 10/4/2021	Analysis Date: 10/9/2021	SeqNo: 2900965	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	130	9.5	47.48	154.1	-47.9	39.3	155			S
Surr: DNOP	5.2		4.748		109	70	130			

Sample ID: 2109H25-010AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS10	Batch ID: 63004	RunNo: 81862								
Prep Date: 10/4/2021	Analysis Date: 10/9/2021	SeqNo: 2900966	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	180	9.5	47.44	154.1	61.0	39.3	155	32.9	23.4	R
Surr: DNOP	5.5		4.744		116	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: mb-62983	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893759	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	70	130			

Sample ID: mb-63008	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893760	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		103	70	130			

Sample ID: lcs-62983	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893761	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	116	78.6	131			
Surr: BFB	1200		1000		119	70	130			

Sample ID: lcs-63008	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893762	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	123	78.6	131			
Surr: BFB	1200		1000		115	70	130			

Sample ID: 2109H25-010ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS10	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893763	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	24	23.97	0	146	61.3	114			S
Surr: BFB	5700		4794		119	70	130			

Sample ID: 2109H25-030ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS30	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893764	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: 2109H25-030ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS30	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893764	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	40	24	24.08	0	165	61.3	114			S
Surr: BFB	5600		4817		116	70	130			

Sample ID: 2109H25-010amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS10	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893765	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	32	24	23.85	0	132	61.3	114	10.5	20	S
Surr: BFB	5600		4771		117	70	130	0	0	

Sample ID: 2109H25-030amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS30	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893766	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	41	24	24.04	0	172	61.3	114	3.61	20	S
Surr: BFB	5500		4808		114	70	130	0	0	

Sample ID: lcs-62982	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 62982	RunNo: 81821								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2894442	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	78.6	131			
Surr: BFB	1000		1000		104	70	130			

Sample ID: mb-62982	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 62982	RunNo: 81821								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2894443	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.2	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: mb-62983	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893811	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.7	70	130			

Sample ID: mb-63008	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893812	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.7	70	130			

Sample ID: lcs-62983	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893813	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	104	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		90.0	70	130			

Sample ID: lcs-63008	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893814	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.1	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.6	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		86.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: 2109H25-011ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS11	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893822	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.12	0.9625	0	106	80	120			
Toluene	1.0	0.24	0.9625	0	108	80	120			
Ethylbenzene	1.0	0.24	0.9625	0	107	80	120			
Xylenes, Total	3.2	0.48	2.887	0	111	80	120			
Surr: 4-Bromofluorobenzene	4.5		4.812		93.2	70	130			

Sample ID: 2109H25-031ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS31	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893823	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9533	0	109	80	120			
Toluene	1.0	0.048	0.9533	0	110	80	120			
Ethylbenzene	1.0	0.048	0.9533	0	110	80	120			
Xylenes, Total	3.2	0.095	2.860	0	111	80	120			
Surr: 4-Bromofluorobenzene	0.84		0.9533		88.2	70	130			

Sample ID: 2109H25-011amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS11	Batch ID: 62983	RunNo: 81809								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2893827	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.12	0.9355	0	129	80	120	16.3	20	S
Toluene	1.2	0.23	0.9355	0	132	80	120	16.5	20	S
Ethylbenzene	1.2	0.23	0.9355	0	132	80	120	18.3	20	S
Xylenes, Total	4.0	0.47	2.806	0	142	80	120	21.4	20	RS
Surr: 4-Bromofluorobenzene	4.3		4.677		92.0	70	130	0	0	

Sample ID: 2109H25-031amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS31	Batch ID: 63008	RunNo: 81809								
Prep Date: 10/4/2021	Analysis Date: 10/5/2021	SeqNo: 2893830	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9671	0	108	80	120	1.03	20	
Toluene	1.0	0.048	0.9671	0	107	80	120	0.972	20	
Ethylbenzene	1.0	0.048	0.9671	0	106	80	120	2.29	20	
Xylenes, Total	3.0	0.097	2.901	0	105	80	120	4.19	20	
Surr: 4-Bromofluorobenzene	0.84		0.9671		86.9	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2109H25

15-Oct-21

Client: WSP
Project: MC COM 160

Sample ID: LCS-62982	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 62982	RunNo: 81821								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2894544	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	98.8	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.3	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		86.6	70	130			

Sample ID: mb-62982	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 62982	RunNo: 81821								
Prep Date: 10/1/2021	Analysis Date: 10/5/2021	SeqNo: 2894545	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		86.2	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: WSP Work Order Number: 2109H25 RcptNo: 1

Received By: Cheyenne Cason 9/30/2021 7:30:00 AM

Completed By: Isaiah Ortiz 9/30/2021 9:01:09 AM

Reviewed By: KRC 9/10/21 KRC 10/01/21

Handwritten initials: Cason, I-Ortiz

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

- 3. Was an attempt made to cool the samples? Yes [checked] No [] NA []
4. Were all samples received at a temperature of >0° C to 6.0° C? Yes [checked] No [] NA []
5. Sample(s) in proper container(s)? Yes [checked] No []
6. Sufficient sample volume for indicated test(s)? Yes [checked] No []
7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No []
8. Was preservative added to bottles? Yes [] No [checked] NA []
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes [] No [] NA [checked]
10. Were any sample containers received broken? Yes [] No [checked]
11. Does paperwork match bottle labels? Yes [checked] No []
12. Are matrices correctly identified on Chain of Custody? Yes [checked] No []
13. Is it clear what analyses were requested? Yes [checked] No []
14. Were all holding times able to be met? Yes [checked] No []

of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: [Signature] 10-1-21

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

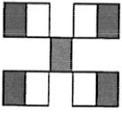
Person Notified: _____ Date: _____
By Whom: _____ Via: [] eMail [] Phone [] Fax [] In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Rows 1-3.

Page 3 of 3



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Chain-of-Custody Record

Client: _____
 Turn-Around Time: Standard Rush
 Project Name: MC COM #160
 Project #: _____

Project Manager: _____
 Project #: _____
 Project Manager: _____
 Sampler: _____
 On Ice: Yes No
 # of Coolers: 3

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9/20/21	1506	SOI	SS25	01402	cool	2109475	X								
	1510		SS26			026	X								
	1511		SS27			027	X								
	1512		SS28			028	X								
	1514		SS29			029	X								
	1515		SS30			030	X								
	1517		SS31			031	X								
	1519		SS32			032	X								
	1520		SS33			033	X								

Reinquired by: Jed Arduing Date: 9/20/21 Time: 1203
 Received by: [Signature] Date: 9/29/21 Time: 1203
 Reinquired by: [Signature] Date: 9/30/21 Time: 0710
 Received by: [Signature] Date: 9/30/21 Time: 0710

Analysis Request

BTEX / MTBE / TMTX (9021)	
TPH:8015D(GRO / DRO / MRO)	
8081 Pesticides/8082 PCB's	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Remarks:

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS
 Action 216568

CONDITIONS

Operator: Whiptail Midstream LLC 15 West 6th Street Tulsa, OK 74119	OGRID: 373240
	Action Number: 216568
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
csmith	Submit additional Remediation Plan/ Deferral request No later than September 8th 2023.	7/5/2023