District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID:	nAB1504835072
District RP:	2RP-2814
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC.	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: jim.raley@dvn.com	Incident # *(assigned by OCD)* nAB1504835072
Contact mailing address: 5315 Buena Vista Dr., Carlsbad, NM, 88220	

Location of Release Source

Latitude 32.0799323 Longitude -103.956339
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: North Brushy Draw 35-4H	Site Type: Oil and Gas Well
Date Release Discovered: 02/12/2015	API# *(if applicable)*: 30-015-42290

Unit Letter	Section	Township	Range	County
N	35	25S	29E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls): 30 bbls	Volume Recovered (bbls): 30 bbls
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
Oil tanks ran over during normal well production activity because oil wasn't hauled. Oil haulers were dispatched to haul oil. Oil was recovered from lined containment with vacuum truck and wash containment.

$$bbl\ estimate = \frac{saturated\ soil\ volume(ft^3)}{4.21(\frac{ft^3}{bbl\ equivalent})} * estimated\ soil\ porosity\ (\%) + recoverd\ fluids\ (bbls)$$

State of New Mexico
Oil Conservation Division

Incident ID:	nAB1504835072
District RP:	2RP-2814
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? The volume of the release was greater than 25 bbls

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Immediate notice was by Taylor Jones to NMOCD - Heather Patterson, BLM - Zackary Laird via email, on 02/12/2015.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 5/31/2023

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

Incident ID:	nAB1504835072
District RP:	2RP-2814
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID:	nAB1504835072
District RP:	2RP-2814
Facility ID	
Application ID	

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: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 5/31/2023

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID:	nAB1504835072
District RP:	2RP-2814
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: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 5/31/2023

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: OCD Date: 05/31/2023

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☑ Deferral Approved

Signature: Ashley Maxwell Date: 06/05/2023

DEFERRAL REQUEST REPORT

North Brushy Draw 35-4H

Eddy County, New Mexico

Incident Number nAB1504835072

Prepared for:

WPX Energy Permian, LLC.

Carlsbad ● Midland ● San Antonio ● Lubbock ● Hobbs ● Lafayette

SYNOPSIS

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of WPX Energy Permian, LLC (WPX), presents the following Deferral Request Report (DRR) detailing site assessment and additional soil sampling activities associated with an inadvertent release of crude oil at the North Brushy Draw 35-4H (Site). Based on the laboratory analytical results from recent soil sampling events, approved deferral for a more recent release covering the same area (NRM2019550034), WPX is requesting to defer residual impacted soil beneath a lined tank battery containment until the Site undergoes major reconstruction or plugging and abandonment, whichever comes first.

SITE LOCATION AND BACKGROUND

The Site is located in Unit N, Section 35, Township 25 South, Range 29 East, in Eddy County, New Mexico (32.0799323° N, 103.956339° W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management. (**Figure 1** in **Appendix A**).
On February 12, 2015, crude oil tanks overflowed and caused a release of approximately 30 barrels (bbls) of crude oil into a lined tank battery containment. Vacuum trucks recovered all free-standing fluids. WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Corrective Action Form C-141 (Form C-141), which was received by the NMOCD on February 12, 2015, and was subsequently assigned Incident Number nAB1504835072. **Figure 2** in **Appendix A** depicts the observed release area, hereafter referred to as the Area of Concern (AOC).

On June 29, 2020, a produced water line failure caused the release of approximately 10 bbls of produced water into the same lined tank battery containment. Vacuum trucks recovered all free-standing fluids and WPX cleaned the tank battery liner in preparation for a liner integrity inspection. On July 15, 2020, the liner was determined to have been compromised. WPX reported the release to the NMOCD on a Form C-141, which was received by the NMOCD on December 15, 2020, and was subsequently assigned Incident Number NRM2019550034. WPX retained a third-party environmental contractor to assess residual soil impacts within and around the lined tank battery containment following the inadvertent release event and to investigate potential soil impacts from nAB1504835072. Upon receipt of laboratory analytical results, a Deferral Request (DR) was prepared and submitted on December 14, 2021, regarding both Incident Numbers NRM2019550034 and nAB1504835072. The NMOCD reviewed the report and approved the deferral of Incident Number NRM2019550034 on April 20, 2021, however, there was no response for Incident Number nAB1504835072. Additional efforts to provide supplemental data for the lateral assessment of the AOC have been conducted at the Site since the approval of Incident Number NRM2019550034 and are described below. Summaries of previous sampling events and laboratory analytical results can be referenced in the original report.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

Etech characterized the Site according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC) considering depth to groundwater and the proximity to:

- Any continuously flowing watercourse or any other significant watercourse;
- Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark);
- An occupied permanent residence, school, hospital, institution or church;
- A spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes;
- Any freshwater well or spring;
- Incorporated municipal boundaries or a defined municipal fresh water well field covered under a municipal ordinance;
- A wetland;
- A subsurface mine;

- An unstable area (i.e. high karst potential); and
- A 100-year floodplain.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring (MW-1) that was drilled by Talon LPE for WPX on December 8, 2020, located approximately 0.27 miles east of the Site on the North Brushy Federal 35 #010 well pad. The soil boring location may be referenced on **Figure 1** in **Appendix A**. Using a truck mounted drill rig equipped with hollow stem auger, the soil boring was advanced to a total depth of 105 feet bgs. No fluids were observed throughout the drilling process nor after a 72-hour observation period. Following the observation period, the boring was plugged and abandoned according to the appropriate regulations. The boring log and plugging records are provided in **Appendix B**.

Based on the initial desktop review, the closest continuously flowing or significant water course to the Site appeared to be an ephemeral stream identified on the United States Fish and Wildlife Service (USFWS) online database, National Wetland Inventory (Wetland Mapper), located to the south within 300 feet of the edge of the AOC. Although the identified feature is denoted as a dashed blue line on a United States Geological Survey (USGS) 7.5-minute quadrangle map, the identified feature did not seem to meet one or more of the remaining qualifications of a significant watercourse as defined in Subsection P of NMAC 19.15.17.7. As per Subsection P of NMAC 19.15.17.7, a significant watercourse requires "[…] a defined bed and bank either named or identified by a dashed blue line on a USGS 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank of such watercourse". As such, field verification was necessary to determine the applicability of the definition of a significant watercourse for the identified feature.

On July 15, 2022, a third-party environmental contractor was retained to conduct a field investigation to validate the presence or absence of a significant watercourse within the established 300-foot boundary of the release according to the parameters set forth in Subsection P of NMAC 19.15.17.7. A bed and bank were not identified throughout the course of the field survey of the potential watercourse. Only very faint erosional paths or swales aligned with the topographic gradient were observed. Additionally, the features did not appear to connect to a larger watercourse as the feature is intersected by the Site pad, access roads and multiple pipeline Right-of-Ways (ROW) visible on a satellite arial imagery. There was no evidence of fluvial deposition inside the faint erosional features, instead it splayed out onto the desert floor. Aerial imagery and photographic evidence from the field survey are provided in **Figure 2** in **Appendix A** and **Appendix C**, respectively. Following the field investigation, the feature identified by Wetland Mapper did not meet the requirements of a "significant watercourse" according to Subsection P of NMAC 19.15.17.7 and therefore no significant watercourse lies within 300 feet of the Site.

All other potential receptors are not within the established buffers in NMAC 19.15.29.12. Receptor details from the site characterization are included in **Figure 1** in **Appendix A**.

Based on the results from the desktop review, the watercourse survey and estimated regional depth to groundwater at the Site, the following Closure Criteria was applied:

Constituents of Concern (COCs)	Laboratory Analytical Method	Closure Criteria
Chloride	(Environmental Protection Agency) EPA 300.0	20,000 milligram per kilogram (mg/kg)
Total Petroleum Hydrocarbon (TPH)	EPA 8015 M/D	2,500 mg/kg
TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO)	EPA 8021B	1,000 mg/kg
Benzene	EPA 8021B	10 mg/kg
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA 8021B	50 mg/kg

DELINEATION SOIL SAMPLING ACTIVITIES

On July 14, 2022, delineation activities were continued by third-party environmental contractors to further assess lateral definition of the AOC. Six delineation boreholes (DS01 through DS06) were advanced via mechanical equipment surrounding the tank battery containment. It should be noted that DS01 through DS04 were advanced within 5 feet from the original locations documented in the DR to collect a second depth for complete lateral delineation. Delineation activities were directed by field screening for volatile organic compounds utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations for delineation soil samples were recorded on soil sampling logs, which is included as **Appendix D**. The location of all delineation soil samples is displayed in **Figure 3** in **Appendix A**. Photographic documentation during delineation activities is included in **Appendix C**.

Delineation soil samples were placed directly into lab provided pre-cleaned glass jars, packaged with minimal void space, labeled, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures, to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of COCs.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for additional soil samples collected from DS01 through DS06 locations indicated all COC concentrations were below the Site Closure Criteria.

Laboratory analytical results are summarized in **Table 1** included in **Appendix E**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix F**.

DEFERRAL REQUEST

Based on supplemental delineation soil sample analytical results and results from previous sampling events, WPX believes the AOC has been sufficiently vertically and horizontally delineated. Residual impacts appear to solely reside below the lined tank battery containment (**Figure 3** in **Appendix A**), based on the six advanced soil borings covering every cardinal direction surrounding the tank battery containment. As such, WPX respectfully requests deferral of a total of approximately 90 cubic yards of impacted soil for Incident Number NAB1504835072 until the Site undergoes major facility deconstruction or plugging and abandonment, whichever comes first. No Further Action appears warranted at this time and the Site should be respectfully considered for Deferral by the NMOCD.

WPX believes the timely initial response and other completed remedial actions have mitigated impacts at the Site and the requirements set forth in NMAC guidelines and be protective of human health, the environment, and groundwater.

If you have any questions or comments, please do not hesitate to contact Joseph Hernandez at (281) 702-2329 or joseph@etechenv.com or Anna Byers at (575) 200-6754 or anna@etechenv.com. Documentation of communication with NMOCD regarding Incident Number nAB1702454101 is presented as **Attachment G**.

Sincerely,

Etech Environmental and Safety Solutions, Inc.

Anna Byers
Senior Geologist

Joseph S. Hernandez
Senior Managing Geologist

cc: Jim Raley, WPX
New Mexico Oil Conservation Division

Appendices:

Appendix A: Figure 1: Site Map
Figure 2: Watercourse Survey
Figure 3: Delineation Soil Sample Locations
Appendix B: Referenced Well Records
Appendix C: Photographic Log
Appendix D: Soil Sampling Logs
Appendix E: Tables
Appendix F: Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix G: NMOCD Correspondence

APPENDIX A

Figures

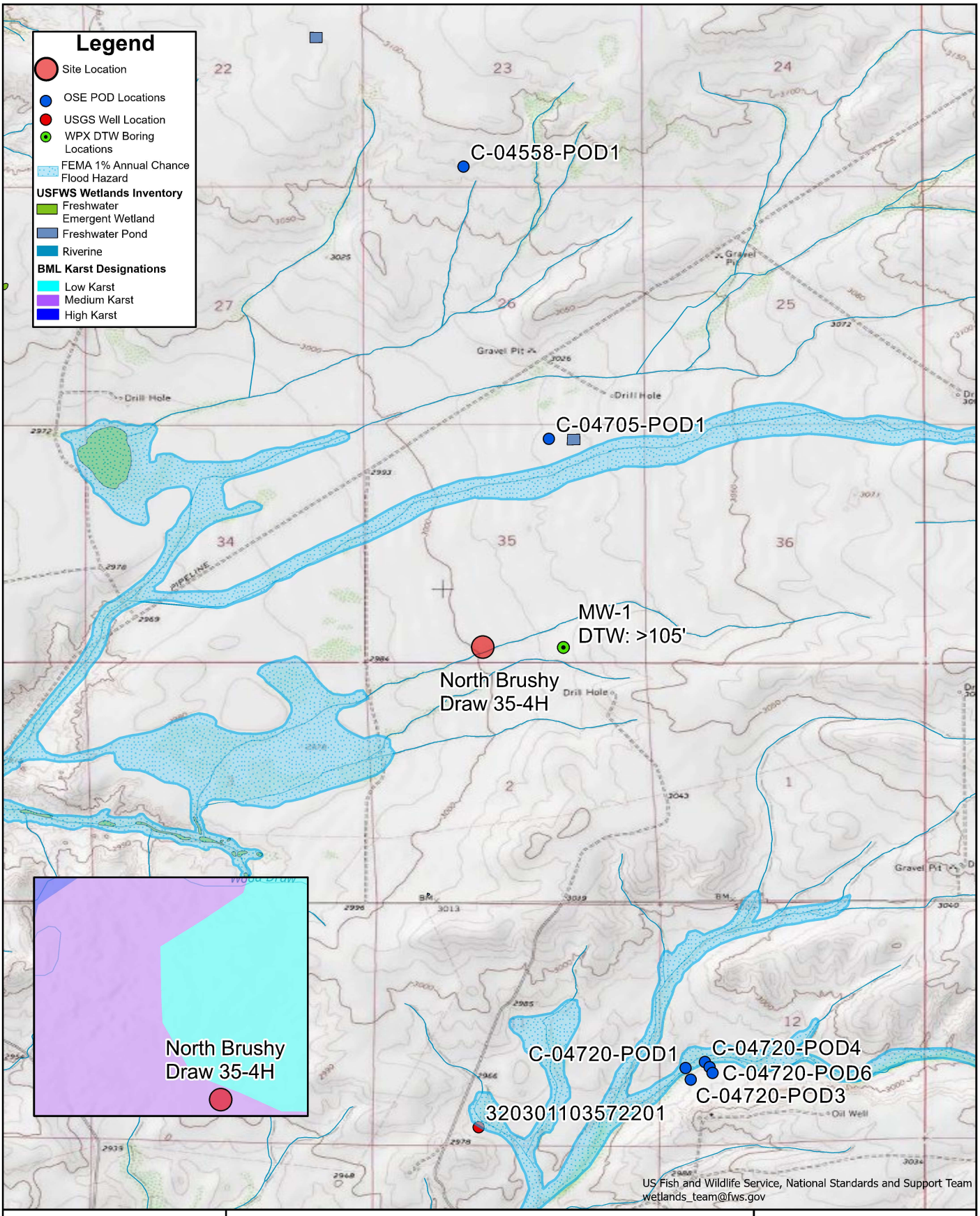


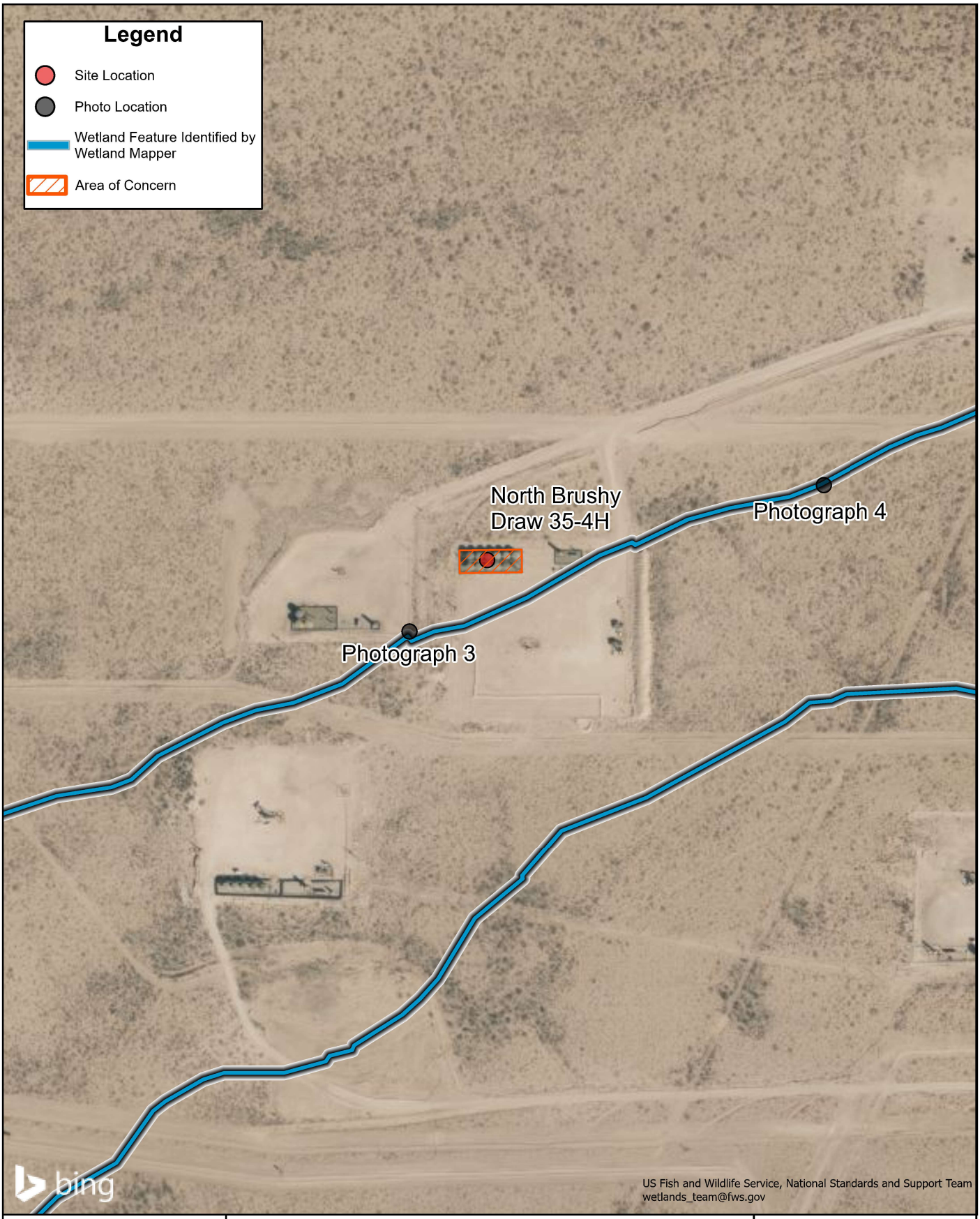
FIGURE 1

Site Map

WPX ENERGY PERMIAN, LLC
North Brushy Draw 35-4H
Unit N Sec 35 T25S R29E
Eddy County, New Mexico

N

0 1,500 3,000 Feet



eTECH

FIGURE 2

Water Course Survey

WPX ENERGY PERMIAN, LLC
North Brushy Draw 35-4H
Unit A Sec 35 T25S R29E
Eddy County, New Mexico

N

0 210 420 Feet

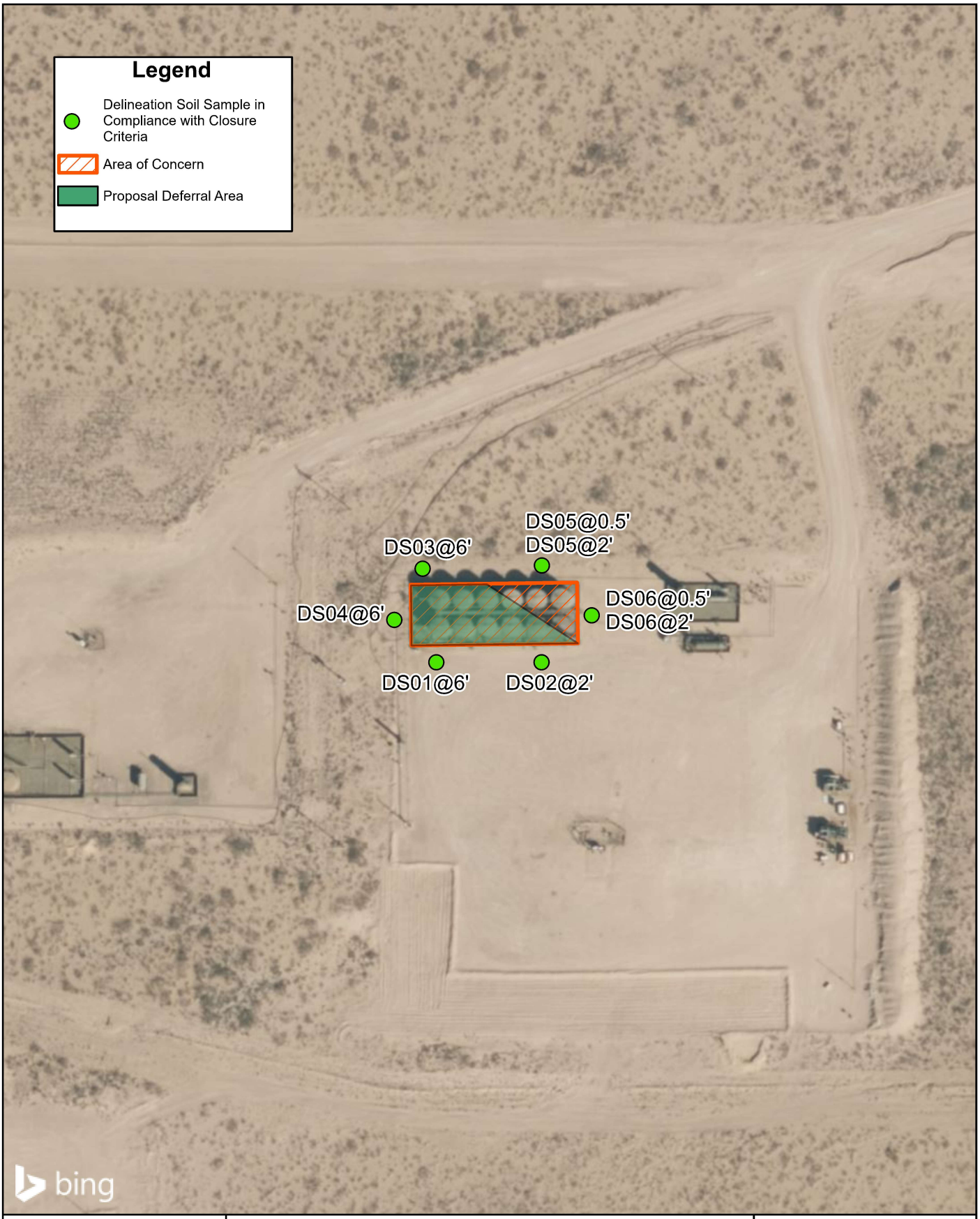


FIGURE 3

Delineation Soil Sample Locations

WPX ENERGY PERMIAN, LLC
North Brushy Draw 35-4H
Unit N Sec 35 T2S R29E
Eddy County, New Mexico

N

0 65 130 Feet

APPENDIX B

Referenced Well Records

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-1		Location: North Brushy Federal 35 # 010H	
Date: 12/8/2020		Client: WPX Energy	
Drilling Method: Air Rotary	Sampling Method: None	Logged By: J. Linn, PG	Drilled By: Talon LPE
Gravel Pack Type: 10/20 Sand	Gravel Pack Depth Interval: 3 Bags	Seal Type: None / Seal Depth Interval: None	Latitude: 32.079909
Casing Type: PVC / Diameter: 2-inch / Depth Interval: 0-100 feet bgs		Boring Total Depth (ft. BGS): 105	Longitude: -103.951386
Screen Type: PVC / Slot: 0.010-inch / Diameter: 2-inch / Depth Interval: 100 - 105 ft		Well Total Depth (ft. BGS): 105	Depth to Water (ft. BTOC): > 105 / DTW Date: 12/16/2020

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0	NM	L	D	N	N	NM	CE	NS	Buff to pale pink caliche	
5										
10										
15										
20	NM	L	D	N	N	NM	SM	NS	Tan to pale red silty sand	
25										
30										
35										
40										
45										
50										
55	NM	M	M	N	N	NM	ML	NS	Tan to pale red sandy silt with minor medium sand	
60										
65	NM	H	M	N	N	NM	CL	NS	Tan clay with minor gravel	
70	NM	L	D	N	N	NM	SP	NS	Pale red poorly graded fine sand with minor silt	
75										
80										
85	NM	H	D/SLM	N	N	NM	CL	NS	Grey sandy lean clay with minor medium sand and minor angular gravel	
90	NM	M/H	M	N	N	NM	CL	NS	Brown with orange sandy lean clay with minor medium sand and angular gravel - TD Boring: 105'	
95										
100										

APPENDIX C

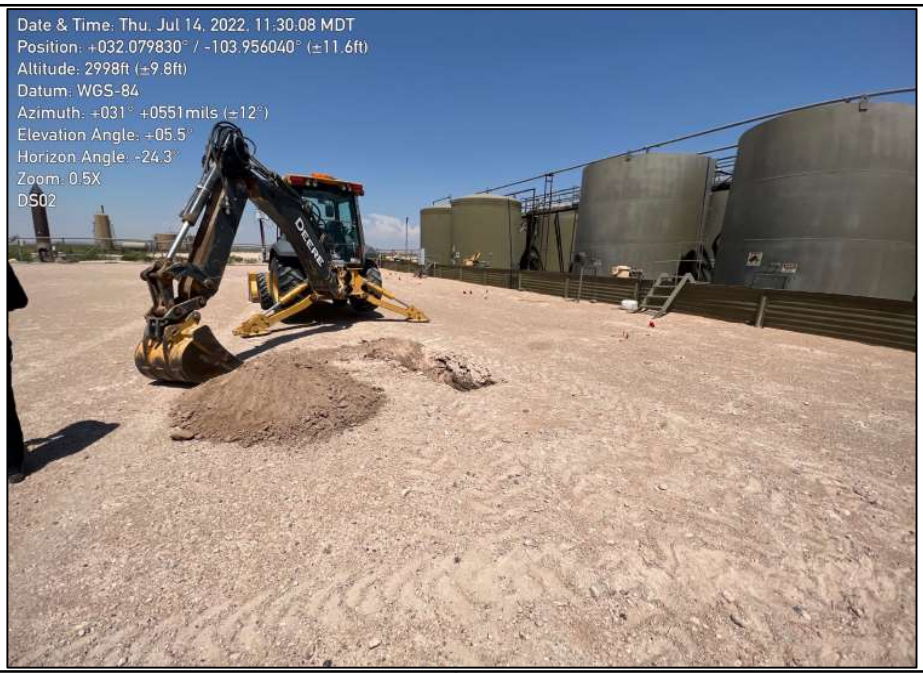
Photographic Log

PHOTOGRAPHIC LOG

WPX Energy Permian, LLC
North Brushy Draw 35-4H
Incident Number nAB1504835072

Photograph 1	**Date: 7/14/2022**

Description: Western view of delineation location DS04, north of the tank battery secondary lined containment.



Photograph 2	**Date: 7/14/2022**

Description: Western view of delineation location DS02, south of the tank battery secondary lined containment.

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PHOTOGRAPHIC LOG

WPX Energy Permian, LLC

North Brushy Draw 35-4H

Incident Number nAB1504835072

Photograph 3	**Date: 7/15/2022**

Description: Southwestern view of the northeastern area of the potential watercourse during the field watercourse survey. No bed or bank identified.

Photograph 4	**Date: 7/15/2022**

Description: Northeastern view of the southwestern area of the potential watercourse during the field watercourse survey. No bed or bank identified.

APPENDIX D

Soil Sampling Logs

eTECH

LITHOLOGIC / SOIL SAMPLING LOG

Sample Name: DS01	Date: 07/14/2022	
Site Name: North Brushy Draw 35-4H		
Incident Number: nAB1504835072		
Job Number: 03A1987034		
Logged By: GM	Method: Backhoe	
Coordinates: 32.0799323, -103.9563395	Hole Diameter: N/A	Total Depth: 6'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SW-SM	0-6' bgs: SAND, dry, brown, well graded with gravel, fine, no stain, no odor.
-	-	-	-	-	-	0.5	SW-SM	0-5' bgs: previously sampled
-	-	-	-	-	-	1	SW-SM	
-	-	-	-	-	-	2	SW-SM	
-	-	-	-	-	-	3	SW-SM	
-	-	-	-	-	-	4	SW-SM	
-	-	-	-	-	-	5	SW-SM	
Dry	218.4	0.0	No	DS01	6	6	SW-SM	

Total Depth: 6 feet

eTECH

LITHOLOGIC / SOIL SAMPLING LOG

Sample Name: DS02	Date: 07/14/2022	
Site Name: North Brushy Draw 35-4H		
Incident Number: nAB1504835072		
Job Number: 03A1987034		
Logged By: GM	Method: Backhoe	
Coordinates: 32.0799323, -103.9563395	Hole Diameter: N/A	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SW-SM	0-2' bgs: SAND, dry, brown, well graded with gravel, fine- coarse, no stain, no odor.
-	-	-	-	-	0.5	0.5	SW-SM	0-1' bgs: previously sampled
-	-	-	-	-	1	1	SW-SM	
Dry	<168	0.3	No	DS02	2	2	SW-SM	

Total Depth: 2 feet

eTECH

LITHOLOGIC / SOIL SAMPLING LOG

Sample Name: DS03	Date: 07/14/2022	
Site Name: North Brushy Draw 35-4H		
Incident Number: nAB1504835072		
Job Number: 03A1987034		
Logged By: GM	Method: Backhoe	
Coordinates: 32.0799323, -103.9563395	Hole Diameter: N/A	Total Depth: 6'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SW-SM	0-6' bgs: SAND, dry, brown, well graded, fine-coarse no stain, no odor.
-	-	-	-	-	-	0.5	SW-SM	@ 6' tan
-	-	-	-	-	-	1	SW-SM	0-5' bgs: previously sampled
-	-	-	-	-	-	2	SW-SM	
-	-	-	-	-	-	3	SW-SM	
-	-	-	-	-	-	4	SW-SM	
-	-	-	-	-	-	5	SW-SM	
Dry	218.4	0.4	No	DS03	6	6	SW-SM	

Total Depth: 6 feet

eTECH

LITHOLOGIC / SOIL SAMPLING LOG

Sample Name: DS04	Date: 07/14/2022	
Site Name: North Brushy Draw 35-4H		
Incident Number: nAB1504835072		
Job Number: 03A1987034		
Logged By: GM	Method: Backhoe	
Coordinates: 32.0799323, -103.9563395	Hole Diameter: N/A	Total Depth: 6'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SW-SM	0-6' bgs: SAND, dry, tan, well graded, fine-coarse, with gravel, no stain, no odor.
-	-	-	-	-	-	0.5	SW-SM	0-5' bgs: previously sampled
-	-	-	-	-	-	1	SW-SM	
-	-	-	-	-	-	2	SW-SM	
-	-	-	-	-	-	3	SW-SM	
-	-	-	-	-	-	4	SW-SM	
-	-	-	-	-	-	5	SW-SM	
Dry	<168	0.2	No	DS04	6	6	SW-SM	

Total Depth: 6 feet

LITHOLOGIC / SOIL SAMPLING LOG

	Sample Name: DS05	Date: 07/14/2022
	Site Name: North Brushy Draw 35-4H	
	Incident Number: nAB1504835072	
	Job Number: 03A1987034	
	Logged By: GM	Method: Backhoe
Coordinates: 32.0799323, -103.9563395	Hole Diameter: N/A	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SM	0-1' bgs: SAND, dry, brown, poorly graded fine-coarse, no stain, no odor.
Dry	<168	0.1	No	DS05	0.5	0.5	SP-SM	1-2' bgs: SAND, dry, brown, well graded, fine-coarse, no stain, no odor.
Dry	<168	0.0	No		1	1	SP-SM / SW-SM	
Dry	252.0	0.1	No	DS05	2	2	SW-SM	

Total Depth: 2 feet

eTECH

LITHOLOGIC / SOIL SAMPLING LOG

Sample Name: DS06	Date: 07/14/2022	
Site Name: North Brushy Draw 35-4H		
Incident Number: nAB1504835072		
Job Number: 03A1987034		
Logged By: GM	Method: Backhoe	
Coordinates: 32.0799323, -103.9563395	Hole Diameter: N/A	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1' bgs: CALICHE, dry, tan, fine-coarse, with silt, no stain, no odor.
Dry	<168	0.1	No	DS06	0.5	0.5	CCHE	
Dry	<168	0.2	No		1	1	CCHE / SP-SM	1-2' bgs: SAND, dry, brown, fine-coarse, no stain, no stain, no odor.
Dry	<168	0.3	No	DS06	2	2		@ 2' less gravel

Total Depth: 2 feet

APPENDIX E

Tables

Table 1
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC - North Brushy Draw 35-4H
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Soil Samples										
DS01	07/14/2022	6	<0.000399	<0.000798	<50.0	<50.0	<50.0	<50.0	<50.0	201
DS02	07/14/2022	2	<0.000402	<0.000803	<49.9	<49.9	<49.9	<49.9	<49.9	101
DS03	07/14/2022	6	<0.000399	<0.000798	<50.0	<50.0	<50.0	<50.0	<50.0	223
DS04	07/14/2022	6	<0.000398	<0.000795	<50.0	<50.0	<50.0	<50.0	<50.0	31.2
DS05	07/14/2022	0.5	<0.000398	<0.000797	<49.9	<49.9	<49.9	<49.9	<49.9	<4.98
DS05	07/14/2022	2	<0.000399	<0.000798	<49.9	<49.9	<49.9	<49.9	<49.9	353
DS06	07/14/2022	0.5	<0.000401	<0.000802	<49.9	<49.9	<49.9	<49.9	<49.9	138
DS06	07/14/2022	2	<0.000402	<0.000803	<49.9	<49.9	<49.9	<49.9	<49.9	36.9

Notes:
bgs: below ground surface
mg/kg: milligrams per kilogram
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMOCD: New Mexico Oil Conservation Division
NMAC: New Mexico Administrative Code
Concentrations in bold exceed the NMOCD Table I Closure Criteria and/or Reclamation Standard for Soils Impacted by a Release

APPENDIX F

Laboratory Analytical Reports & Chain-of-Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2563-1
Laboratory Sample Delivery Group: 03A1987034
Client Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Ben Belill

JKramer

Authorized for release by:
7/21/2022 9:53:47 AM

Jessica Kramer, Project Manager
(432)704-5440
Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Laboratory Job ID: 890-2563-1
SDG: 03A1987034

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2563-1
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H SDG: 03A1987034

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Job ID: 890-2563-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2563-1

Receipt
The samples were received on 7/15/2022 10:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-30144 and analytical batch 880-30143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-30000 and analytical batch 880-29927 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-30000/2-A) and (MB 880-30000/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-29901 and analytical batch 880-29941 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-29907 and analytical batch 880-30069 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS01

Lab Sample ID: 890-2563-1
Matrix: Solid

Date Collected: 07/14/22 14:00
Date Received: 07/15/22 10:06
Sample Depth: 6

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000399	U F1	0.000399		mg/Kg		07/20/22 13:38	07/20/22 17:20	1
Toluene	<0.000399	U F1	0.000399		mg/Kg		07/20/22 13:38	07/20/22 17:20	1
Ethylbenzene	<0.000399	U F1	0.000399		mg/Kg		07/20/22 13:38	07/20/22 17:20	1
m-Xylene & p-Xylene	<0.000798	U F1	0.000798		mg/Kg		07/20/22 13:38	07/20/22 17:20	1
o-Xylene	<0.000399	U F1	0.000399		mg/Kg		07/20/22 13:38	07/20/22 17:20	1
Xylenes, Total	<0.000798	U F1	0.000798		mg/Kg		07/20/22 13:38	07/20/22 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*07/20/22 13:38*	*07/20/22 17:20*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*07/20/22 13:38*	*07/20/22 17:20*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000798	U	0.000798		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/19/22 09:52	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1 *+	50.0		mg/Kg		07/18/22 16:51	07/19/22 01:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 01:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 01:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*07/18/22 16:51*	*07/19/22 01:11*	*1*
o-Terphenyl	*124*		*70 - 130*	*07/18/22 16:51*	*07/19/22 01:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**201**		4.96		mg/Kg			07/20/22 05:30	1

Client Sample ID: DS02

Lab Sample ID: 890-2563-2
Matrix: Solid

Date Collected: 07/14/22 11:30
Date Received: 07/15/22 10:06
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 17:46	1
Toluene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 17:46	1
Ethylbenzene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 17:46	1
m-Xylene & p-Xylene	<0.000803	U	0.000803		mg/Kg		07/20/22 13:38	07/20/22 17:46	1
o-Xylene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 17:46	1
Xylenes, Total	<0.000803	U	0.000803		mg/Kg		07/20/22 13:38	07/20/22 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/20/22 13:38*	*07/20/22 17:46*	*1*

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS02

Lab Sample ID: 890-2563-2
Matrix: Solid

Date Collected: 07/14/22 11:30
Date Received: 07/15/22 10:06
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*07/20/22 13:38*	*07/20/22 17:46*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000803	U	0.000803		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/19/22 09:52	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1 *+	49.9		mg/Kg		07/18/22 16:51	07/19/22 02:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 02:14	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 02:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*107*		*70 - 130*	*07/18/22 16:51*	*07/19/22 02:14*	*1*
o-Terphenyl	*117*		*70 - 130*	*07/18/22 16:51*	*07/19/22 02:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**101**		4.99		mg/Kg			07/20/22 05:39	1

Client Sample ID: DS03

Lab Sample ID: 890-2563-3
Matrix: Solid

Date Collected: 07/14/22 12:15
Date Received: 07/15/22 10:06
Sample Depth: 6

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 18:12	1
Toluene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 18:12	1
Ethylbenzene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 18:12	1
m-Xylene & p-Xylene	<0.000798	U	0.000798		mg/Kg		07/20/22 13:38	07/20/22 18:12	1
o-Xylene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 18:12	1
Xylenes, Total	<0.000798	U	0.000798		mg/Kg		07/20/22 13:38	07/20/22 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*07/20/22 13:38*	*07/20/22 18:12*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/20/22 13:38*	*07/20/22 18:12*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000798	U	0.000798		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/19/22 09:52	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS03

Date Collected: 07/14/22 12:15
Date Received: 07/15/22 10:06
Sample Depth: 6

Lab Sample ID: 890-2563-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1 *+	50.0		mg/Kg		07/18/22 16:51	07/19/22 02:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 02:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 02:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*07/18/22 16:51*	*07/19/22 02:35*	*1*
o-Terphenyl	*109*		*70 - 130*	*07/18/22 16:51*	*07/19/22 02:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**223**		5.00		mg/Kg			07/20/22 05:48	1

Client Sample ID: DS04

Date Collected: 07/14/22 13:35
Date Received: 07/15/22 10:06
Sample Depth: 6

Lab Sample ID: 890-2563-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 18:38	1
Toluene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 18:38	1
Ethylbenzene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 18:38	1
m-Xylene & p-Xylene	<0.000795	U	0.000795		mg/Kg		07/20/22 13:38	07/20/22 18:38	1
o-Xylene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 18:38	1
Xylenes, Total	<0.000795	U	0.000795		mg/Kg		07/20/22 13:38	07/20/22 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*07/20/22 13:38*	*07/20/22 18:38*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/20/22 13:38*	*07/20/22 18:38*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000795	U	0.000795		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/19/22 09:52	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1 *+	50.0		mg/Kg		07/18/22 16:51	07/19/22 02:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 02:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 02:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/18/22 16:51*	*07/19/22 02:56*	*1*
o-Terphenyl	*105*		*70 - 130*	*07/18/22 16:51*	*07/19/22 02:56*	*1*

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS04

Lab Sample ID: 890-2563-4
Matrix: Solid

Date Collected: 07/14/22 13:35
Date Received: 07/15/22 10:06
Sample Depth: 6

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31.2		5.00		mg/Kg			07/20/22 05:57	1

Client Sample ID: DS05

Lab Sample ID: 890-2563-5
Matrix: Solid

Date Collected: 07/14/22 11:40
Date Received: 07/15/22 10:06
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 19:04	1
Toluene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 19:04	1
Ethylbenzene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 19:04	1
m-Xylene & p-Xylene	<0.000797	U	0.000797		mg/Kg		07/20/22 13:38	07/20/22 19:04	1
o-Xylene	<0.000398	U	0.000398		mg/Kg		07/20/22 13:38	07/20/22 19:04	1
Xylenes, Total	<0.000797	U	0.000797		mg/Kg		07/20/22 13:38	07/20/22 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*07/20/22 13:38*	*07/20/22 19:04*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*07/20/22 13:38*	*07/20/22 19:04*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000797	U	0.000797		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/19/22 09:52	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1 *+	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:17	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*07/18/22 16:51*	*07/19/22 03:17*	*1*
o-Terphenyl	*121*		*70 - 130*	*07/18/22 16:51*	*07/19/22 03:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.98	U	4.98		mg/Kg			07/20/22 15:41	1

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS05

Lab Sample ID: 890-2563-6
Matrix: Solid

Date Collected: 07/14/22 11:50
Date Received: 07/15/22 10:06
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 19:31	1
Toluene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 19:31	1
Ethylbenzene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 19:31	1
m-Xylene & p-Xylene	<0.000798	U	0.000798		mg/Kg		07/20/22 13:38	07/20/22 19:31	1
o-Xylene	<0.000399	U	0.000399		mg/Kg		07/20/22 13:38	07/20/22 19:31	1
Xylenes, Total	<0.000798	U	0.000798		mg/Kg		07/20/22 13:38	07/20/22 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*07/20/22 13:38*	*07/20/22 19:31*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*07/20/22 13:38*	*07/20/22 19:31*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000798	U	0.000798		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/19/22 09:52	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1 *+	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/18/22 16:51*	*07/19/22 03:38*	*1*
o-Terphenyl	*108*		*70 - 130*	*07/18/22 16:51*	*07/19/22 03:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**353**		4.96		mg/Kg			07/20/22 15:48	1

Client Sample ID: DS06

Lab Sample ID: 890-2563-7
Matrix: Solid

Date Collected: 07/14/22 11:00
Date Received: 07/15/22 10:06
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000401	U	0.000401		mg/Kg		07/20/22 13:38	07/20/22 19:57	1
Toluene	<0.000401	U	0.000401		mg/Kg		07/20/22 13:38	07/20/22 19:57	1
Ethylbenzene	<0.000401	U	0.000401		mg/Kg		07/20/22 13:38	07/20/22 19:57	1
m-Xylene & p-Xylene	<0.000802	U	0.000802		mg/Kg		07/20/22 13:38	07/20/22 19:57	1
o-Xylene	<0.000401	U	0.000401		mg/Kg		07/20/22 13:38	07/20/22 19:57	1
Xylenes, Total	<0.000802	U	0.000802		mg/Kg		07/20/22 13:38	07/20/22 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*07/20/22 13:38*	*07/20/22 19:57*	*1*

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS06

Lab Sample ID: 890-2563-7
Matrix: Solid

Date Collected: 07/14/22 11:00
Date Received: 07/15/22 10:06
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/20/22 13:38*	*07/20/22 19:57*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000802	U	0.000802		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/19/22 09:52	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1 *+	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:59	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 03:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*07/18/22 16:51*	*07/19/22 03:59*	*1*
o-Terphenyl	*106*		*70 - 130*	*07/18/22 16:51*	*07/19/22 03:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**138**	**F1**	4.95		mg/Kg			07/20/22 15:56	1

Client Sample ID: DS06

Lab Sample ID: 890-2563-8
Matrix: Solid

Date Collected: 07/14/22 11:15
Date Received: 07/15/22 10:06
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 20:24	1
Toluene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 20:24	1
Ethylbenzene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 20:24	1
m-Xylene & p-Xylene	<0.000803	U	0.000803		mg/Kg		07/20/22 13:38	07/20/22 20:24	1
o-Xylene	<0.000402	U	0.000402		mg/Kg		07/20/22 13:38	07/20/22 20:24	1
Xylenes, Total	<0.000803	U	0.000803		mg/Kg		07/20/22 13:38	07/20/22 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*07/20/22 13:38*	*07/20/22 20:24*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*07/20/22 13:38*	*07/20/22 20:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000803	U	0.000803		mg/Kg			07/21/22 10:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/19/22 09:52	1

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Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS06
Date Collected: 07/14/22 11:15
Date Received: 07/15/22 10:06
Sample Depth: 2

Lab Sample ID: 890-2563-8
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1 *+	49.9		mg/Kg		07/18/22 16:51	07/19/22 04:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 04:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/18/22 16:51	07/19/22 04:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*07/18/22 16:51*	*07/19/22 04:19*	*1*
o-Terphenyl	*113*		*70 - 130*	*07/18/22 16:51*	*07/19/22 04:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**36.9**		5.01		mg/Kg			07/20/22 16:20	1

Surrogate Summary

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2563-1	DS01	107	103
890-2563-1 MS	DS01	107	102
890-2563-1 MSD	DS01	98	103
890-2563-2	DS02	99	96
890-2563-3	DS03	101	92
890-2563-4	DS04	102	93
890-2563-5	DS05	102	98
890-2563-6	DS05	105	99
890-2563-7	DS06	97	94
890-2563-8	DS06	106	102
LCS 880-30144/1-A	Lab Control Sample	102	108
LCSD 880-30144/2-A	Lab Control Sample Dup	102	97
MB 880-30144/5-A	Method Blank	74	96

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2563-1	DS01	112	124
890-2563-1 MS	DS01	84	85
890-2563-1 MSD	DS01	85	87
890-2563-2	DS02	107	117
890-2563-3	DS03	103	109
890-2563-4	DS04	101	105
890-2563-5	DS05	111	121
890-2563-6	DS05	101	108
890-2563-7	DS06	99	106
890-2563-8	DS06	107	113
LCS 880-30000/2-A	Lab Control Sample	122	131 S1+
LCSD 880-30000/3-A	Lab Control Sample Dup	109	118
MB 880-30000/1-A	Method Blank	130	158 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30144/5-A
Matrix: Solid
Analysis Batch: 30143

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30144

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000400	U	0.000400		mg/Kg		07/20/22 13:38	07/20/22 16:53	1
Toluene	<0.000400	U	0.000400		mg/Kg		07/20/22 13:38	07/20/22 16:53	1
Ethylbenzene	<0.000400	U	0.000400		mg/Kg		07/20/22 13:38	07/20/22 16:53	1
m-Xylene & p-Xylene	<0.000800	U	0.000800		mg/Kg		07/20/22 13:38	07/20/22 16:53	1
o-Xylene	<0.000400	U	0.000400		mg/Kg		07/20/22 13:38	07/20/22 16:53	1
Xylenes, Total	<0.000800	U	0.000800		mg/Kg		07/20/22 13:38	07/20/22 16:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*07/20/22 13:38*	*07/20/22 16:53*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*07/20/22 13:38*	*07/20/22 16:53*	*1*

Lab Sample ID: LCS 880-30144/1-A
Matrix: Solid
Analysis Batch: 30143

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30144

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09565		mg/Kg		96	70 - 130
Toluene	0.100	0.08912		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.09670		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.1865		mg/Kg		93	70 - 130
o-Xylene	0.100	0.1011		mg/Kg		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-30144/2-A
Matrix: Solid
Analysis Batch: 30143

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30144

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08707		mg/Kg		87	70 - 130	9	35
Toluene	0.100	0.08620		mg/Kg		86	70 - 130	3	35
Ethylbenzene	0.100	0.09094		mg/Kg		91	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1750		mg/Kg		87	70 - 130	6	35
o-Xylene	0.100	0.09566		mg/Kg		96	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-2563-1 MS
Matrix: Solid
Analysis Batch: 30143

Client Sample ID: DS01
Prep Type: Total/NA
Prep Batch: 30144

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000399	U F1	0.0998	0.01843	F1	mg/Kg		18	70 - 130
Toluene	<0.000399	U F1	0.0998	0.01803	F1	mg/Kg		18	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-2563-1 MS
Matrix: Solid
Analysis Batch: 30143

Client Sample ID: DS01
Prep Type: Total/NA
Prep Batch: 30144

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.000399	U F1	0.0998	0.01883	F1	mg/Kg		19	70 - 130
m-Xylene & p-Xylene	<0.000798	U F1	0.200	0.03622	F1	mg/Kg		18	70 - 130
o-Xylene	<0.000399	U F1	0.0998	0.01974	F1	mg/Kg		20	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-2563-1 MSD
Matrix: Solid
Analysis Batch: 30143

Client Sample ID: DS01
Prep Type: Total/NA
Prep Batch: 30144

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000399	U F1	0.101	0.01721	F1	mg/Kg		17	70 - 130	7	35
Toluene	<0.000399	U F1	0.101	0.01673	F1	mg/Kg		17	70 - 130	7	35
Ethylbenzene	<0.000399	U F1	0.101	0.01643	F1	mg/Kg		16	70 - 130	14	35
m-Xylene & p-Xylene	<0.000798	U F1	0.202	0.03266	F1	mg/Kg		16	70 - 130	10	35
o-Xylene	<0.000399	U F1	0.101	0.01828	F1	mg/Kg		18	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-30000/1-A
Matrix: Solid
Analysis Batch: 29927

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30000

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 00:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 00:09	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/18/22 16:51	07/19/22 00:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*07/18/22 16:51*	*07/19/22 00:09*	*1*
o-Terphenyl	*158*	*S1+*	*70 - 130*	*07/18/22 16:51*	*07/19/22 00:09*	*1*

Lab Sample ID: LCS 880-30000/2-A
Matrix: Solid
Analysis Batch: 29927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30000

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1420	*+	mg/Kg		142	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1078		mg/Kg		108	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-30000/2-A
Matrix: Solid
Analysis Batch: 29927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30000

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	131	S1+	70 - 130

Lab Sample ID: LCSD 880-30000/3-A
Matrix: Solid
Analysis Batch: 29927

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30000

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1108	*1	mg/Kg		111	70 - 130	25	20
Diesel Range Organics (Over C10-C28)			1000	1009		mg/Kg		101	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: 890-2563-1 MS
Matrix: Solid
Analysis Batch: 29927

Client Sample ID: DS01
Prep Type: Total/NA
Prep Batch: 30000

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1 *+	1000	930.0		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	722.1		mg/Kg		72	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 890-2563-1 MSD
Matrix: Solid
Analysis Batch: 29927

Client Sample ID: DS01
Prep Type: Total/NA
Prep Batch: 30000

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1 *+	999	862.0		mg/Kg		86	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	730.5		mg/Kg		73	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	87		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29901/1-A
Matrix: Solid
Analysis Batch: 29941

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/20/22 01:21	1

Lab Sample ID: LCS 880-29901/2-A
Matrix: Solid
Analysis Batch: 29941

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	261.1		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-29901/3-A
Matrix: Solid
Analysis Batch: 29941

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	267.3		mg/Kg		107	90 - 110	2	20

Lab Sample ID: 890-2562-A-8-I MS
Matrix: Solid
Analysis Batch: 29941

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	9.38	F1	248	284.5	F1	mg/Kg		111	90 - 110

Lab Sample ID: 890-2562-A-8-J MSD
Matrix: Solid
Analysis Batch: 29941

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	9.38	F1	248	279.2		mg/Kg		109	90 - 110	2	20

Lab Sample ID: MB 880-29907/1-A
Matrix: Solid
Analysis Batch: 30069

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/20/22 09:33	1

Lab Sample ID: LCS 880-29907/2-A
Matrix: Solid
Analysis Batch: 30069

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	274.9		mg/Kg		110	90 - 110

Lab Sample ID: LCSD 880-29907/3-A
Matrix: Solid
Analysis Batch: 30069

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	274.9		mg/Kg		110	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-2563-7 MS
Matrix: Solid
Analysis Batch: 30069

Client Sample ID: DS06
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	138	F1	248	426.1	F1	mg/Kg		116	90 - 110

Lab Sample ID: 890-2563-7 MSD
Matrix: Solid
Analysis Batch: 30069

Client Sample ID: DS06
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	138	F1	248	425.7	F1	mg/Kg		116	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

GC VOA

Analysis Batch: 30143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Total/NA	Solid	8021B	30144
890-2563-2	DS02	Total/NA	Solid	8021B	30144
890-2563-3	DS03	Total/NA	Solid	8021B	30144
890-2563-4	DS04	Total/NA	Solid	8021B	30144
890-2563-5	DS05	Total/NA	Solid	8021B	30144
890-2563-6	DS05	Total/NA	Solid	8021B	30144
890-2563-7	DS06	Total/NA	Solid	8021B	30144
890-2563-8	DS06	Total/NA	Solid	8021B	30144
MB 880-30144/5-A	Method Blank	Total/NA	Solid	8021B	30144
LCS 880-30144/1-A	Lab Control Sample	Total/NA	Solid	8021B	30144
LCSD 880-30144/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30144
890-2563-1 MS	DS01	Total/NA	Solid	8021B	30144
890-2563-1 MSD	DS01	Total/NA	Solid	8021B	30144

Prep Batch: 30144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Total/NA	Solid	5035	
890-2563-2	DS02	Total/NA	Solid	5035	
890-2563-3	DS03	Total/NA	Solid	5035	
890-2563-4	DS04	Total/NA	Solid	5035	
890-2563-5	DS05	Total/NA	Solid	5035	
890-2563-6	DS05	Total/NA	Solid	5035	
890-2563-7	DS06	Total/NA	Solid	5035	
890-2563-8	DS06	Total/NA	Solid	5035	
MB 880-30144/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30144/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30144/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2563-1 MS	DS01	Total/NA	Solid	5035	
890-2563-1 MSD	DS01	Total/NA	Solid	5035	

Analysis Batch: 30218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Total/NA	Solid	Total BTEX	
890-2563-2	DS02	Total/NA	Solid	Total BTEX	
890-2563-3	DS03	Total/NA	Solid	Total BTEX	
890-2563-4	DS04	Total/NA	Solid	Total BTEX	
890-2563-5	DS05	Total/NA	Solid	Total BTEX	
890-2563-6	DS05	Total/NA	Solid	Total BTEX	
890-2563-7	DS06	Total/NA	Solid	Total BTEX	
890-2563-8	DS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 29927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Total/NA	Solid	8015B NM	30000
890-2563-2	DS02	Total/NA	Solid	8015B NM	30000
890-2563-3	DS03	Total/NA	Solid	8015B NM	30000
890-2563-4	DS04	Total/NA	Solid	8015B NM	30000
890-2563-5	DS05	Total/NA	Solid	8015B NM	30000
890-2563-6	DS05	Total/NA	Solid	8015B NM	30000

QC Association Summary

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

GC Semi VOA (Continued)

Analysis Batch: 29927 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-7	DS06	Total/NA	Solid	8015B NM	30000
890-2563-8	DS06	Total/NA	Solid	8015B NM	30000
MB 880-30000/1-A	Method Blank	Total/NA	Solid	8015B NM	30000
LCS 880-30000/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30000
LCSD 880-30000/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30000
890-2563-1 MS	DS01	Total/NA	Solid	8015B NM	30000
890-2563-1 MSD	DS01	Total/NA	Solid	8015B NM	30000

Prep Batch: 30000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Total/NA	Solid	8015NM Prep	
890-2563-2	DS02	Total/NA	Solid	8015NM Prep	
890-2563-3	DS03	Total/NA	Solid	8015NM Prep	
890-2563-4	DS04	Total/NA	Solid	8015NM Prep	
890-2563-5	DS05	Total/NA	Solid	8015NM Prep	
890-2563-6	DS05	Total/NA	Solid	8015NM Prep	
890-2563-7	DS06	Total/NA	Solid	8015NM Prep	
890-2563-8	DS06	Total/NA	Solid	8015NM Prep	
MB 880-30000/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30000/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30000/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2563-1 MS	DS01	Total/NA	Solid	8015NM Prep	
890-2563-1 MSD	DS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Total/NA	Solid	8015 NM	
890-2563-2	DS02	Total/NA	Solid	8015 NM	
890-2563-3	DS03	Total/NA	Solid	8015 NM	
890-2563-4	DS04	Total/NA	Solid	8015 NM	
890-2563-5	DS05	Total/NA	Solid	8015 NM	
890-2563-6	DS05	Total/NA	Solid	8015 NM	
890-2563-7	DS06	Total/NA	Solid	8015 NM	
890-2563-8	DS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Soluble	Solid	DI Leach	
890-2563-2	DS02	Soluble	Solid	DI Leach	
890-2563-3	DS03	Soluble	Solid	DI Leach	
890-2563-4	DS04	Soluble	Solid	DI Leach	
MB 880-29901/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29901/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29901/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2562-A-8-I MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2562-A-8-J MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

HPLC/IC

Leach Batch: 29907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-5	DS05	Soluble	Solid	DI Leach	
890-2563-6	DS05	Soluble	Solid	DI Leach	
890-2563-7	DS06	Soluble	Solid	DI Leach	
890-2563-8	DS06	Soluble	Solid	DI Leach	
MB 880-29907/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29907/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29907/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2563-7 MS	DS06	Soluble	Solid	DI Leach	
890-2563-7 MSD	DS06	Soluble	Solid	DI Leach	

Analysis Batch: 29941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-1	DS01	Soluble	Solid	300.0	29901
890-2563-2	DS02	Soluble	Solid	300.0	29901
890-2563-3	DS03	Soluble	Solid	300.0	29901
890-2563-4	DS04	Soluble	Solid	300.0	29901
MB 880-29901/1-A	Method Blank	Soluble	Solid	300.0	29901
LCS 880-29901/2-A	Lab Control Sample	Soluble	Solid	300.0	29901
LCSD 880-29901/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29901
890-2562-A-8-I MS	Matrix Spike	Soluble	Solid	300.0	29901
890-2562-A-8-J MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29901

Analysis Batch: 30069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2563-5	DS05	Soluble	Solid	300.0	29907
890-2563-6	DS05	Soluble	Solid	300.0	29907
890-2563-7	DS06	Soluble	Solid	300.0	29907
890-2563-8	DS06	Soluble	Solid	300.0	29907
MB 880-29907/1-A	Method Blank	Soluble	Solid	300.0	29907
LCS 880-29907/2-A	Lab Control Sample	Soluble	Solid	300.0	29907
LCSD 880-29907/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29907
890-2563-7 MS	DS06	Soluble	Solid	300.0	29907
890-2563-7 MSD	DS06	Soluble	Solid	300.0	29907

Lab Chronicle

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS01

Date Collected: 07/14/22 14:00
Date Received: 07/15/22 10:06

Lab Sample ID: 890-2563-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 17:20	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 01:11	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	29901	07/18/22 08:57	KS	XEN MID
Soluble	Analysis	300.0		1			29941	07/20/22 05:30	CH	XEN MID

Client Sample ID: DS02

Date Collected: 07/14/22 11:30
Date Received: 07/15/22 10:06

Lab Sample ID: 890-2563-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 17:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 02:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29901	07/18/22 08:57	KS	XEN MID
Soluble	Analysis	300.0		1			29941	07/20/22 05:39	CH	XEN MID

Client Sample ID: DS03

Date Collected: 07/14/22 12:15
Date Received: 07/15/22 10:06

Lab Sample ID: 890-2563-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 18:12	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 02:35	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	29901	07/18/22 08:57	KS	XEN MID
Soluble	Analysis	300.0		1			29941	07/20/22 05:48	CH	XEN MID

Client Sample ID: DS04

Date Collected: 07/14/22 13:35
Date Received: 07/15/22 10:06

Lab Sample ID: 890-2563-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 18:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID

Lab Chronicle

Client: Ensolum

Job ID: 890-2563-1

Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

SDG: 03A1987034

Client Sample ID: DS04

Lab Sample ID: 890-2563-4

Date Collected: 07/14/22 13:35

Matrix: Solid

Date Received: 07/15/22 10:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 02:56	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	29901	07/18/22 08:57	KS	XEN MID
Soluble	Analysis	300.0		1			29941	07/20/22 05:57	CH	XEN MID

Client Sample ID: DS05

Lab Sample ID: 890-2563-5

Date Collected: 07/14/22 11:40

Matrix: Solid

Date Received: 07/15/22 10:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 19:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 03:17	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	29907	07/18/22 09:04	KS	XEN MID
Soluble	Analysis	300.0		1			30069	07/20/22 15:41	CH	XEN MID

Client Sample ID: DS05

Lab Sample ID: 890-2563-6

Date Collected: 07/14/22 11:50

Matrix: Solid

Date Received: 07/15/22 10:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 19:31	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 03:38	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	29907	07/18/22 09:04	KS	XEN MID
Soluble	Analysis	300.0		1			30069	07/20/22 15:48	CH	XEN MID

Client Sample ID: DS06

Lab Sample ID: 890-2563-7

Date Collected: 07/14/22 11:00

Matrix: Solid

Date Received: 07/15/22 10:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 19:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 03:59	AJ	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Client Sample ID: DS06
Date Collected: 07/14/22 11:00
Date Received: 07/15/22 10:06

Lab Sample ID: 890-2563-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	29907	07/18/22 09:04	KS	XEN MID
Soluble	Analysis	300.0		1			30069	07/20/22 15:56	CH	XEN MID

Client Sample ID: DS06
Date Collected: 07/14/22 11:15
Date Received: 07/15/22 10:06

Lab Sample ID: 890-2563-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	30144	07/20/22 13:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30143	07/20/22 20:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30218	07/21/22 10:10	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30042	07/19/22 09:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30000	07/18/22 16:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29927	07/19/22 04:19	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	29907	07/18/22 09:04	KS	XEN MID
Soluble	Analysis	300.0		1			30069	07/20/22 16:20	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: NORTH BRUSHY DRAW FEDERAL 35 #004H

Job ID: 890-2563-1
SDG: 03A1987034

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2563-1	DS01	Solid	07/14/22 14:00	07/15/22 10:06	6
890-2563-2	DS02	Solid	07/14/22 11:30	07/15/22 10:06	2
890-2563-3	DS03	Solid	07/14/22 12:15	07/15/22 10:06	6
890-2563-4	DS04	Solid	07/14/22 13:35	07/15/22 10:06	6
890-2563-5	DS05	Solid	07/14/22 11:40	07/15/22 10:06	0.5
890-2563-6	DS05	Solid	07/14/22 11:50	07/15/22 10:06	2
890-2563-7	DS06	Solid	07/14/22 11:00	07/15/22 10:06	0.5
890-2563-8	DS06	Solid	07/14/22 11:15	07/15/22 10:06	2

Chain of Custody

eurofins | Environment Testing Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	BBelill@Ensolum.com, jim.raley@dvn.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	North Brushy Draw Federal 35 #004H	Turn Around	
Project Number:	03A1987034	☑ Routine ☐ Rush	
Project Location:	Eddy County, NM	Due Date:	5 Day TAT
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm	
CC #:	1061174701		

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#7	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.0	
Total Containers:		Corrected Temperature:	4.8	

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3: HN; H_2SO_4: H_2; NaOH: Na; H_3PO_4: HP; $NaHSO_4$: NABIS; $Na_2S_2O_3$: $NaSO_3$; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
DS01	S	7.14.22	14:00	6'	Comp	1		X	X	X
~~DS02~~	S	~~7.14.22~~	11:30	2'	Comp	1		X	X	X
DS03	S	7.14.22	12:15	6'	Comp	1		X	X	X
DS04	S	7.14.22	13:35	6'	Comp	1		X	X	X
DS05	S	7.14.22	11:40	0.5'	Comp	1		X	X	X
~~DS05A~~ DS05	S	7.14.22	11:50	2'	Comp	1		X	X	X
DS06	S	7.14.22	11:00	0.5'	Comp	1		X	X	X
~~DS06A~~ DS06	S	7.14.22	11:15	2'	Comp	1		X	X	X

890-2563 Chain of Custody

Sample Comments

Incident Numbers
NRM2019550034

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7-15-22 1006	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020 2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2563-1
SDG Number: 03A1987034

Login Number: 2563
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2563-1
SDG Number: 03A1987034

Login Number: 2563
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/18/22 08:47 AM

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

APPENDIX G

NMOCD Correspondence

From: Joseph Hernandez
To: ocd.enviro@state.nm.us; "CFO_Spill, BLM_NM"
Cc: Raley, Jim; Ben Belill
Subject: WPX Site Sampling Activity Update (7/11-7/16/22)
Date: Friday, July 8, 2022 11:48:59 AM
Attachments: image001.png
image002.png
image003.png
image004.png

Good morning,

WPX anticipates conducting final confirmation soil sampling activities at the following sites between July 11 through July 16, 2022:

Site: RDU 55
API: 30-015-41976
Incident ID: NAB1728549561

Site: RDU 14
API: 30-015-25208
Incident ID's: NAB1504757628, NAB1636431146, & NAB1902951984

Site: North Brushy 35-4H
API: 30-015-42290
Incident ID: NRM2019550034

Site: RDX Federal 21 #044
API: 30-015-41193
Incident Number: nAPP2115533694

Site: EP USA #005
API: 30-015-25020
Incident Number: NMAP1826970471

Site: Tucker Draw 9-4-4
API: 30-015-44487
Incident Number: nAB1812338789

Joseph Hernandez
Senior Geologist
281-702-2329
Ensolum, LLC

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

Operator:	OGRID:
WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	246289
	Action Number: 222258
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue.	6/5/2023
amaxwell	Remediation is to occur during any future major construction/alteration or final plugging and abandonment, whichever occurs first.	6/5/2023