

Incident ID	nAPP2120130933
District RP	
Facility ID	
Application ID	

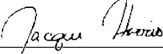
## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jacqui Harris Title: Sr. Environmental Engineer  
Signature:  Date: 9.14.22  
email: Jacqui.Harris@conocophillips.com Telephone: (575)745-1807

### OCD Only

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 11/16/2022  
Printed Name: Jennifer Nobui Title: Environmental Specialist A

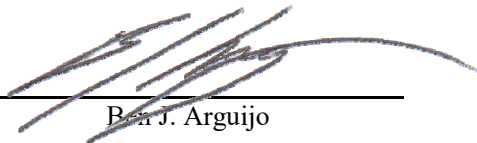
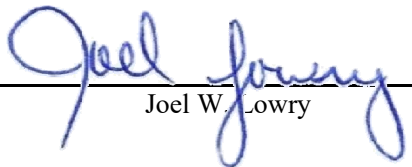
## Remediation Summary & Soil Closure Request

### COG Operating, LLC Mamba Federal Com 702H

Eddy County, New Mexico  
Unit Letter "B", Section 34, Township 25 South, Range 28 East  
Latitude 32.090719 North, Longitude 104.071325 West  
NMOCD Reference No. nAPP2120130933

Prepared By:

**Etech Environmental & Safety Solutions, Inc.**  
6309 Indiana Ave, Ste. D  
Lubbock, Texas 79413

  
Ben J. Arguijo  
Joel W. Lowry

Midland • San Antonio • Lubbock • Hobbs • Lafayette

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## 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of COG Operating, LLC, has prepared this *Remediation Summary & Soil Closure Request* for the release site known as the Mamba Federal Com 702H. Details of the release are summarized below:

## Location of Release Source

Latitude: 32.090719      Longitude: -104.071325

Provided GPS are in WGS84 format.

Site Name: Mamba Federal Com 702H	Site Type: Pipeline
Date Release Discovered: 6/28/2021	API # (if applicable): N/A

Unit Letter	Section	Township	Range	County
"B"	34	25S	28E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name \_\_\_\_\_)

## Nature and Volume of Release

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls) 39	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released	Volume/Weight Recovered

Cause of Release:

The release was caused by damage to a lay-flat transfer line due to heavy rains. The rains caused the low-lying area of the pasture to flood and moved the transfer line against a t-post, which punctured the line. The release of treated produced water was carried away in the flood waters. No liquid was recoverable.

## Initial Response

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

Previously submitted portions of the NMOCD Form C-141 are available on the NMOCD Imaging System.

## 2.0 SITE CHARACTERIZATION

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half-mile radius of the Mamba Federal Com 702H release site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information. Depth to groundwater information is provided as Appendix A.

What is the shallowest depth to groundwater beneath the area affected by the release?	40'	
Did the release impact groundwater or surface water?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production or storage site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) and Fish and Wildlife Services (FWS) shapefiles, topographic maps, NMOSE and USGS databases, and aerial imagery. The results are depicted in Figures 1, 2, 4, and 5.

## 3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

Based on the volume and nature of the release, inferred depth to groundwater, and NMOCD Siting Criteria, the NMOCD Closure Criteria and NMOCD Reclamation Standards for the Mamba Federal Com 702H release site are as follows:

Probable Depth to Groundwater	Constituent	Laboratory Analytical Method	Closure Criteria*†	Reclamation Standard*‡
40'	Chloride (Cl-)	EPA 300.0 or SM4500 Cl B	600	600
	Total Petroleum Hydrocarbons (TPH)	EPA SW-846 Method 8015M Ext	100	100
	Gas Range Organics + Diesel Range Organics (GRO + DRO)	EPA SW-846 Method 8015M	-	-
	Benzene	EPA SW-846 Methods 8021b or 8260b	10	10
	Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA SW-846 Methods 8021b or 8260b	50	50

\* Measured in milligrams per kilogram (mg/kg)

† Table I, Section 19.15.29.12 of the New Mexico Administrative Code (NMAC).

‡ The NMOCD Reclamation Standard applies only to the top 4' of soil in non-production areas. Section 19.15.29.13 D.(1) NMAC.

## 4.0 REMEDIATION ACTIVITIES SUMMARY

On July 9, 2021, Etech conducted an initial site assessment. During the initial site assessment, a series of hand-augered soil bores (SP1 through SP5) were advanced within the inferred margins of the affected area in an effort to determine the vertical extent of impacted soil. In addition, hand-augered soil bores (NH1, EH1, SH1, and WH1) were advanced at the inferred edges of the primary pooling area of the release (characterized by sample location SP1) in an effort to determine the horizontal extent of impacted soil. During the advancement of the hand-augered soil bores, field soil samples were collected and field-screened for the presence of Volatile Organic Compounds utilizing olfactory/visual senses and/or concentrations of chloride utilizing a Hach Quantab ® chloride test kit.

Based on field observations and field test data, a total of 18 delineation soil samples (NH1 @ Surface, NH1 @ 1', EH1 @ Surface, EH1 @ 1', SH1 @ Surface, SH1 @ 1', WH1 @ Surface, WH1 @ 1', SP1 @ Surface, SP1 @ 4', SP2 @ Surface, SP2 @ 1', SP3 @ Surface, SP3 @ 1', SP4 @ Surface, SP4 @ 1', SP5 @ Surface, and SP5 @ 1') were submitted to a certified commercial laboratory (henceforth, "the laboratory") for analysis of BTEX, TPH, and chloride. Based on laboratory analytical results, the horizontal and vertical extent of impacted soil was adequately defined. Soil was not affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standards beyond four (4) feet below ground surface (bgs) in the area characterized by sample point SP1. Soil was not affected above background concentrations in the runoff area characterized by sample points SP2 through SP5.

On September 27, 2021, an unrelated, third-party release overlapped and commingled with impacted soil in the area characterized by sample point SP1. The releases were remediated concurrently.

On September 28, 2021, based on laboratory analytical results, site characteristics, and field observations made during the initial site assessment, a *Site Assessment Report & Proposed Remediation Workplan* was submitted to the NMOCD, proposing remediation activities designed to advance the release site toward regulatory closure. The workplan was subsequently approved by the NMOCD.

On July 15, 2022, remediation activities commenced following the completion of ongoing road/bridge construction activities that had precluded access to the release site. In accordance with NMOCD regulatory guidelines and the approved workplan, impacted soil in the commingled overlap area (OL) affected above the NMOCD Closure Criteria and NMOCD Reclamation Standards was excavated to approximately four (4) feet below ground surface (bgs) and stockpiled on-site, pending transfer to an NMOCD-approved surface waste facility for disposal. The sidewalls of the excavation were advanced until field observations and test results suggested BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards. Representative five-point composite confirmation soil samples were collected every 50 linear feet from the excavation sidewalls and every 200 square feet from the floor of the excavated area to be submitted for laboratory analysis.

On July 15, 2022, Etech collected six (6) confirmation soil samples (OL-NW1, OL-EW1, OL-SW1, OL-WW1, OL-FL 1 @ 4', and OL-FL 2 @ 4') from the sidewalls and floor of the excavated area. The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards in each of the submitted soil samples. BTEX and TPH concentrations were also below the applicable laboratory MDL. Chloride concentrations ranged from 16.0 mg/kg in soil sample OL - FL 1 @ 4' to 288 mg/kg in soil samples OL - NW1 and OL - WW1.

The final dimensions of the excavated area were approximately 40 feet in length, 18 to 30 feet in width, and four (4) feet in depth. During the course of remediation activities, Etech transported approximately 72 cubic yards of impacted soil to an NMOCD-permitted surface waste facility for disposal and imported approximately 72 cubic yards of locally sourced, non-impacted material to the site for use as backfill.

Soil sample locations and the extent of the excavated area are depicted in Figure 3, "Site & Sample Location Map". Soil chemistry data is summarized in Table 1. Field data and soil profile logs are provided in Appendix B. Laboratory analytical reports are provided in Appendix C. General photographs of the release site are provided in Appendix D. Copies of all regulatory correspondence are provided in Appendix E.

## **5.0 RESTORATION, RECLAMATION & RE-VEGETATION PLAN**

Areas affected by remediation and closure activities were substantially restored to the condition that existed prior to the release, to the extent practicable. Excavated areas were backfilled with locally sourced, non-impacted, "like" material placed at or near original relative positions. The affected area was compacted and contoured to achieve erosion control, stability, and preservation of surface water flow, to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an agency and/or landowner-approved seed mixture during the first favorable growing season following closure of the site.

## **6.0 SOIL CLOSURE REQUEST**

Remediation activities were conducted in accordance with NMOCD regulatory guidelines and an approved workplan. Impacted soil affected above the NMOCD Closure Criteria and NMOCD Reclamation Standards was excavated and transported to an NMOCD-permitted disposal facility. Laboratory analytical results from confirmation soil samples indicate in-situ concentrations of BTEX, TPH, and chloride are below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards.

Based on laboratory analytical results and field activities conducted to date, Etech recommends COG Operating, LLC, provide copies of this *Remediation Summary & Soil Closure Request* to the appropriate agencies and request closure be granted to the Mamba Federal Com 702H release site.

## **7.0 LIMITATIONS**

Etech Environmental & Safety Solutions, Inc., has prepared this *Remediation Summary & Soil Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of COG Operating, LLC. Use of the information contained in this report is prohibited without the consent of Etech and/or COG Operating, LLC.

## **8.0 DISTRIBUTION**

***COG Operating, LLC***  
*600 West Illinois Avenue*  
*Midland, TX 79701*

***New Mexico Energy, Minerals and Natural Resources Department***  
*Oil Conservation Division, District 2*  
*811 S. First Street*  
*Artesia, NM 88210*

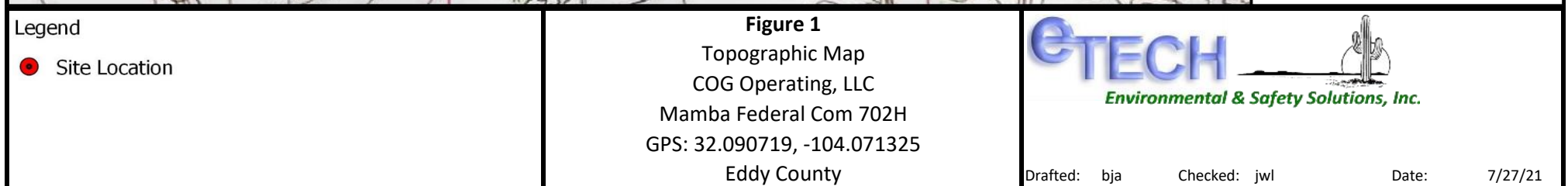
***New Mexico State Land Office***  
*2827 North Dal Paso Street*  
*Suite 117*  
*Hobbs, NM 88240*

*(Electronic Submission)*



# **Figure 1**

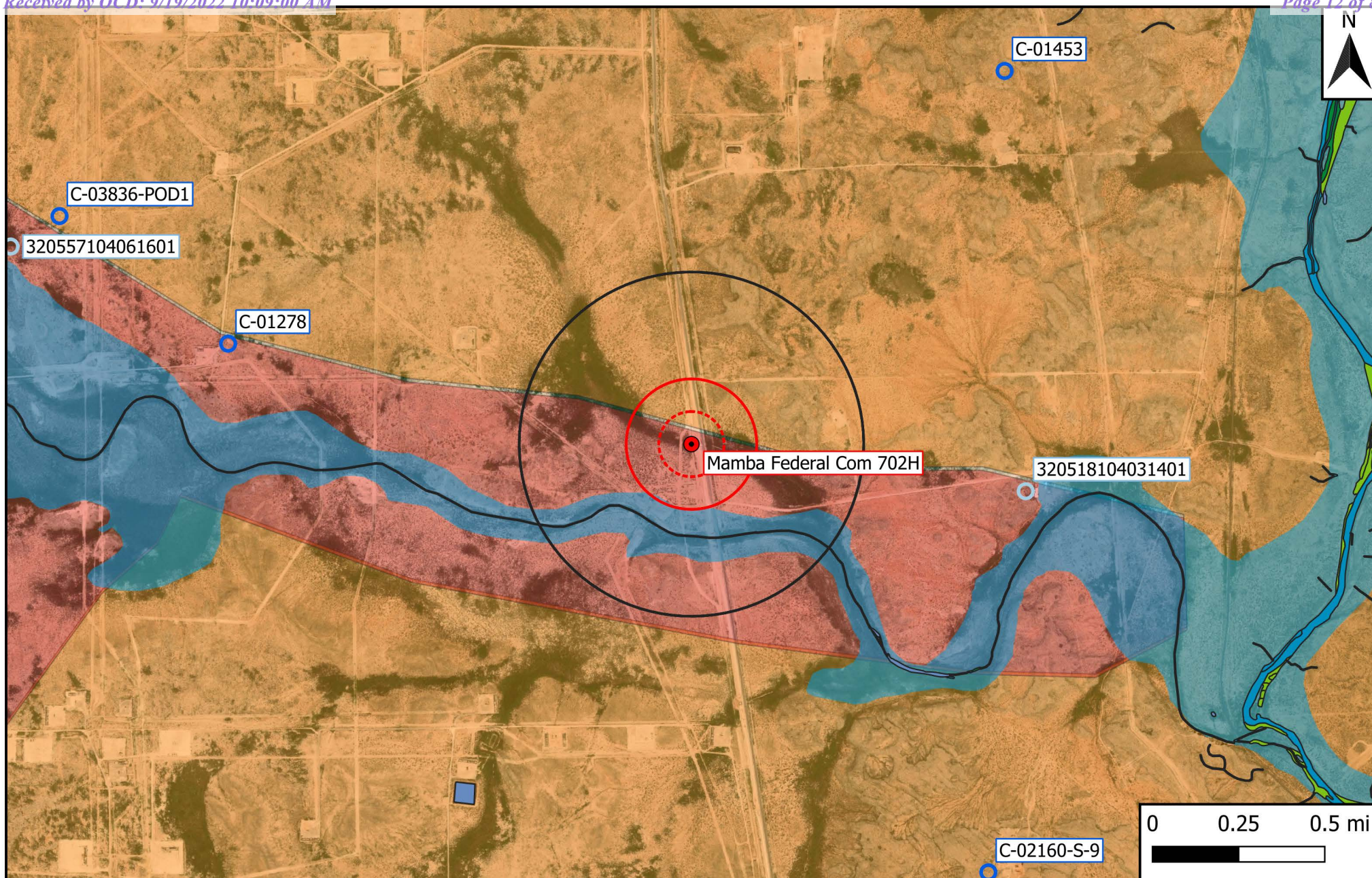
## **Topographic Map**



## **Figure 2**

### **Site Characterization Map**





## Legend

- |                              |                                 |                      |
|------------------------------|---------------------------------|----------------------|
| ● Site Location              | 100-Year Floodplain             | ⋯ 500-Ft Radius      |
| ○ Well - NMOSE               | Emergent/Forested Wetlands      | ▭ 1,000-Ft Radius    |
| ○ Well - USGS                | Freshwater Pond/Lake            | ▭ 0.5-Mi Radius      |
| ○ Well - Exploratory/Monitor | Karst Potential (Low/Med./High) | ▭ Municipal Boundary |
| — Potash Mine Workings       | Riverine                        |                      |

**Figure 2**  
 Site Characterization Map  
 COG Operating, LLC  
 Mamba Federal Com 702H  
 GPS: 32.090719, -104.071325  
 Eddy County



Drafted: bja

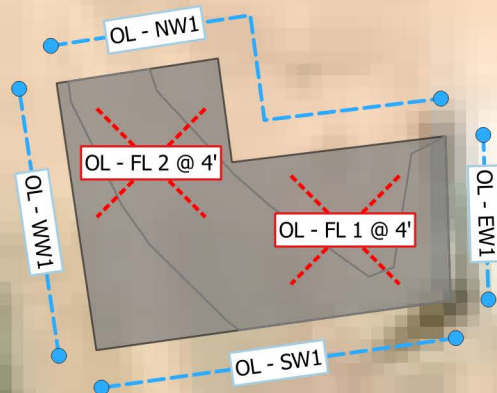
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Date: 9/14/22



## **Figure 3**

### **Site & Sample Location Map**



10 0 10 20 ft

#### Legend

- Excavated Area (4' bgs)
- Commingled/Overlap Area
- Composite Floor Sample
- Composite Wall Sample

#### Figure 3

Site & Sample Location Map  
 COG Operating, LLC  
 Mamba Federal Com 702H  
 GPS: 32.090719, -104.071325  
 Eddy County, NM



Drafted: bja

Checked: jwl

Date: 9/14/22

**Table 1**  
**Concentrations of BTEX, TPH & Chloride in Soil**

Table 1 Concentrations of BTEX, TPH & Chloride in Soil COG Operating, LLC Mamba Federal Com 702H NMOCD Ref. #: nAPP2120130933											
NMOCD Closure Criteria				10	50	N/A	N/A	N/A	N/A	100	600
NMOCD Reclamation Standard				10	50	N/A	N/A	N/A	N/A	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
Delineation Samples											
NH1 @ Surface	7/9/2021	0	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	<5.00
NH1 @ 1'	7/9/2021	1	In-Situ	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	<4.96
EH1 @ Surface	7/9/2021	0	In-Situ	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	11.8
EH1 @ 1'	7/9/2021	1	In-Situ	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	10.2
SH1 @ Surface	7/9/2021	0	In-Situ	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	12.0
SH1 @ 1'	7/9/2021	1	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	212
WH1 @ Surface	7/9/2021	0	In-Situ	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	201
WH1 @ 1'	7/9/2021	1	In-Situ	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	224
SP1 @ Surface	7/9/2021	0	Excavated	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	2,250
SP1 @ 4	7/9/2021	4	In-Situ	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	275
SP2 @ Surface	7/9/2021	0	In-Situ	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	176
SP2 @ 1'	7/9/2021	1	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	195
SP3 @ Surface	7/9/2021	0	In-Situ	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	40.7
SP3 @ 1'	7/9/2021	1	In-Situ	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	11.1
SP4 @ Surface	7/9/2021	0	In-Situ	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	31.5
SP4 @ 1'	7/9/2021	1	In-Situ	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	121
SP5 @ Surface	7/9/2021	0	In-Situ	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	41.2
SP5 @ 1'	7/9/2021	1	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	44.6
Excavation Samples											
OL - NW1	7/15/2022	1-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	288
OL - EW1	7/15/2022	1-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
OL - SW1	7/15/2022	1-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
OL - WW1	7/15/2022	1-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	288
OL - FL 1 @ 4'	7/15/2022	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
OL - FL 2 @ 4'	7/15/2022	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0

Dash (-): Sample not analyzed for that constituent.

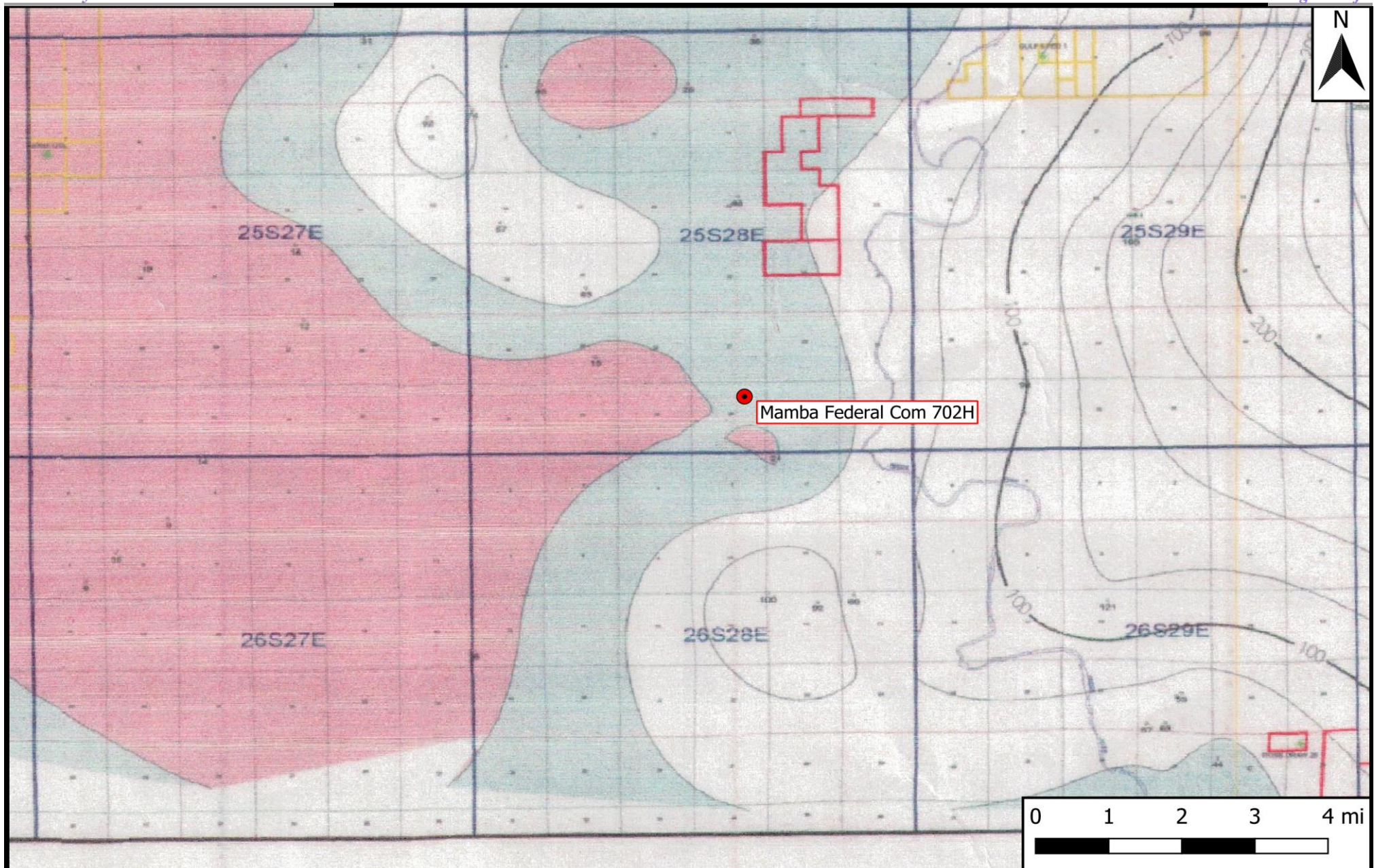
Bold: NMOCD Closure Criteria exceedance.

Red: NMOCD Reclamation Standard exceedance.



## **Appendix A**

### **Depth to Groundwater Information**



## Legend

- Site Location

## Figure 4

Inferred Depth to Groundwater Trend Map  
 COG Operating, LLC  
 Mamba Federal Com 702H  
 GPS: 32.090719, -104.071325  
 Eddy County



Drafted: bja

Checked: jwl

Date: 7/27/21



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">C 02477</a>	CUB	ED		1	1	03	26S	28E		586687	3549347*	1791	150		
<a href="#">C 01278</a>	C	ED		4	3	28	25S	28E		585470	3551338*	2213	205	90	115
<a href="#">C 01453</a>	C	ED		1	2	26	25S	28E		589096	3552612*	2275	70	40	30

Average Depth to Water: **65 feet**

Minimum Depth: **40 feet**

Maximum Depth: **90 feet**

Record Count: 3

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 587633.52

**Northing (Y):** 3550868.6

**Radius:** 2414

\*UTM location was derived from PLSS - see Help


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





# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)						(NAD83 UTM in meters)	
		(quarters are smallest to largest)							
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
	C 02477	1	1	03	26S	28E	586687	3549347*	
<b>Driller License:</b>		<b>Driller Company:</b>							
<b>Driller Name:</b>		HEPLER BROS							
<b>Drill Start Date:</b>		<b>Drill Finish Date:</b>				12/31/1912	<b>Plug Date:</b>		
<b>Log File Date:</b>		<b>PCW Rev Date:</b>					<b>Source:</b>		
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>					<b>Estimated Yield:</b>		
<b>Casing Size:</b>		6.00	<b>Depth Well:</b>				150 feet	<b>Depth Water:</b>	

\*UTM location was derived from PLSS - see Help

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

POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)				(NAD83 UTM in meters)			
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
C	01278	4	3	28	25S	28E	585470	3551338*	

---

<b>Driller License:</b>	46	<b>Driller Company:</b>	ABBOTT BROTHERS COMPANY	
<b>Driller Name:</b>	ABBOTT, MUNELL			
<b>Drill Start Date:</b>	04/04/1965	<b>Drill Finish Date:</b>	04/08/1965	<b>Plug Date:</b>
<b>Log File Date:</b>	05/27/1965	<b>PCW Rev Date:</b>		<b>Source:</b>
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>
<b>Casing Size:</b>		<b>Depth Well:</b>	205 feet	<b>Depth Water:</b> 90 feet

---

<b>Water Bearing Stratifications:</b>	<b>Top</b>	<b>Bottom</b>	<b>Description</b>
	105	110	Sandstone/Gravel/Conglomerate

\*UTM location was derived from PLSS - see Help


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

POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)				(NAD83 UTM in meters)			
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C	01453	1	2	26	25S	28E	589096	3552612*	
<hr/>									
Driller License:	30	Driller Company:			BARRON, EMMETT				
Driller Name:	BARRON, EMMETT								
Drill Start Date:	07/17/1971	Drill Finish Date:			07/20/1971		Plug Date:		
Log File Date:	08/02/1971	PCW Rev Date:						Source:	Shallow
Pump Type:		Pipe Discharge Size:						Estimated Yield:	
Casing Size:	6.00	Depth Well:			70 feet		Depth Water:		40 feet
<hr/>									
Water Bearing Stratifications:					Top	Bottom	Description		
					50	70	Shale/Mudstone/Siltstone		

\*UTM location was derived from PLSS - see Help

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

POINT OF DIVERSION SUMMARY





## Legend

- Site Location
- Well - USGS
- 1,000-Ft Radius
- 0.5-Mi Radius

## Figure 5

USGS Well Proximity Map  
COG Operating, LLC  
Mamba Federal Com 702H  
GPS: 32.090719, -104.071325  
Eddy County



Drafted: bja

Checked: jwl

Date: 7/27/21





USGS Home  
Contact USGS  
Search USGS

## National Water Information System: Web Interface

USGS Water Resources

Data Category:  Geographic Area:

[Click for News Bulletins](#)

Groundwater levels for the Nation

\* IMPORTANT: [Next Generation Station Page](#)

### Search Results -- 1 sites found

Agency code = usgs

site\_no list = 

- 320518104031401

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 320518104031401 25S.28E.35.2324

Eddy County, New Mexico

Latitude 32°05'19.0", Longitude 104°03'17.3" NAD83

Land-surface elevation 2,897 feet above NGVD29

The depth of the well is 180 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1982-12-08			D 72019	45.85			1	S	USGS	S	A
1987-10-14			D 72019	42.01			1	S	USGS	S	A
1998-01-23			D 72019	53.18			1	S	USGS	S	A
2003-02-10			D 72019	54.32			1	S	USGS	S	A
2013-01-10	18:00 UTC	m	72019	54.96			1	S	USGS	S	A



Explanation		
Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)[Feedback on this web site](#)[Automated retrievals](#)[Help](#)[Data Tips](#)[Explanation of terms](#)[Subscribe for system changes](#)[News](#)[Accessibility](#)[FOIA](#)[Privacy](#)[Policies and Notices](#)[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)**Title: Groundwater for USA: Water Levels****URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2021-08-12 16:40:43 EDT

0.44 0.25 nadww01



## **Appendix B**

### **Field Data & Soil Profile Log**

## Sample Log

Date: 7/9/21

Project: Momba Lay Flat Line Release

Project Number: 14434      Latitude: 32.090719      Longitude: -104.071325

[illegible]

Sample Point = SP #1 @ ## etc

**Floor = FL #1 etc**

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

**Resamples= SP #1 @ 5b or SW #1b**

**Stockpile = Stockpile #1**

GPS Sample Points, Center of Comp Areas



## **Appendix C**

### **Laboratory Analytical Reports**



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-918-1  
Laboratory Sample Delivery Group: 14434  
Client Project/Site: Momba Lay Flatline Release

For:  
Etech Environmental & Safety Solutions  
PO BOX 62228  
Midland, Texas 79711

Attn: PM List

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
7/15/2021 3:16:57 PM

Jessica Kramer, Project Manager  
(432)704-5440  
[jessica.kramer@eurofinset.com](mailto:jessica.kramer@eurofinset.com)

#### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*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: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Laboratory Job ID: 890-918-1  
SDG: 14434

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## Definitions/Glossary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

## Qualifiers

## GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

Qualifier	Qualifier Description
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.
α	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: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

---

**Job ID: 890-918-1**

---

**Laboratory: Eurofins Xenco, Carlsbad**

---

**Narrative**

---

**Job Narrative**  
**890-918-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 7/9/2021 3:12 PM. 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 was 10.0° C.

**GC VOA**

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

**GC Semi VOA**

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

**General Chemistry**

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

**Organic Prep**

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

**VOA Prep**

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

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP1 @ surface

Lab Sample ID: 890-918-1

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U F1	0.00198	mg/Kg		07/13/21 15:04	07/14/21 06:05	1
Toluene	<0.00198	U F1	0.00198	mg/Kg		07/13/21 15:04	07/14/21 06:05	1
Ethylbenzene	<0.00198	U F1	0.00198	mg/Kg		07/13/21 15:04	07/14/21 06:05	1
m-Xylene & p-Xylene	<0.00397	U F1	0.00397	mg/Kg		07/13/21 15:04	07/14/21 06:05	1
o-Xylene	<0.00198	U F1	0.00198	mg/Kg		07/13/21 15:04	07/14/21 06:05	1
Xylenes, Total	<0.00397	U F1	0.00397	mg/Kg		07/13/21 15:04	07/14/21 06:05	1
Total BTEX	<0.00397	U F1	0.00397	mg/Kg		07/13/21 15:04	07/14/21 06:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	07/13/21 15:04	07/14/21 06:05	1
1,4-Difluorobenzene (Surr)	84		70 - 130	07/13/21 15:04	07/14/21 06:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 14:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 14:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 14:36	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 14:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	07/14/21 08:43	07/14/21 14:36	1
o-Terphenyl	128		70 - 130	07/14/21 08:43	07/14/21 14:36	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2250		24.9	mg/Kg			07/13/21 20:47	5

Client Sample ID: SP1 @ 4

Lab Sample ID: 890-918-2

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:26	1
Toluene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:26	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:26	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		07/13/21 15:04	07/14/21 06:26	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:26	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		07/13/21 15:04	07/14/21 06:26	1
Total BTEX	<0.00403	U	0.00403	mg/Kg		07/13/21 15:04	07/14/21 06:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	07/13/21 15:04	07/14/21 06:26	1
1,4-Difluorobenzene (Surr)	103		70 - 130	07/13/21 15:04	07/14/21 06:26	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 15:38	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP1 @ 4

Lab Sample ID: 890-918-2

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 15:38	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 15:38	1
Total TPH	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	07/14/21 08:43	07/14/21 15:38	1
o-Terphenyl	119		70 - 130	07/14/21 08:43	07/14/21 15:38	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	275		4.99	mg/Kg			07/14/21 12:31	1

Client Sample ID: SP2 @ surface

Lab Sample ID: 890-918-3

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:46	1
Toluene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:46	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:46	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		07/13/21 15:04	07/14/21 06:46	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		07/13/21 15:04	07/14/21 06:46	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		07/13/21 15:04	07/14/21 06:46	1
Total BTEX	<0.00403	U	0.00403	mg/Kg		07/13/21 15:04	07/14/21 06:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130	07/13/21 15:04	07/14/21 06:46	1
1,4-Difluorobenzene (Surr)	111		70 - 130	07/13/21 15:04	07/14/21 06:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 15:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 15:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 15:59	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	07/14/21 08:43	07/14/21 15:59	1
o-Terphenyl	124		70 - 130	07/14/21 08:43	07/14/21 15:59	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	176		25.2	mg/Kg			07/13/21 21:09	5

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP2 @ 1

Lab Sample ID: 890-918-4

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:07	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/13/21 15:04	07/14/21 07:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:07	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/13/21 15:04	07/14/21 07:07	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		07/13/21 15:04	07/14/21 07:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	07/13/21 15:04	07/14/21 07:07	1
1,4-Difluorobenzene (Surr)	105		70 - 130	07/13/21 15:04	07/14/21 07:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 16:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 16:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 16:20	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 16:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	07/14/21 08:43	07/14/21 16:20	1
o-Terphenyl	110		70 - 130	07/14/21 08:43	07/14/21 16:20	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	195		25.1	mg/Kg			07/13/21 21:15	5

Client Sample ID: SP3 @ surface

Lab Sample ID: 890-918-5

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 07:28	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 07:28	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 07:28	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 07:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	07/13/21 15:04	07/14/21 07:28	1
1,4-Difluorobenzene (Surr)	104		70 - 130	07/13/21 15:04	07/14/21 07:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 16:40	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP3 @ surface

Lab Sample ID: 890-918-5

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 16:40	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 16:40	1
Total TPH	<49.8	U	49.8	mg/Kg		07/14/21 08:43	07/14/21 16:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130			07/14/21 08:43	07/14/21 16:40	1
o-Terphenyl	121		70 - 130			07/14/21 08:43	07/14/21 16:40	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.7		5.01	mg/Kg			07/14/21 12:37	1

Client Sample ID: SP3 @ 1

Lab Sample ID: 890-918-6

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 07:48	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 07:48	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 07:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 07:48	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 07:48	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 07:48	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 07:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			07/13/21 15:04	07/14/21 07:48	1
1,4-Difluorobenzene (Surr)	108		70 - 130			07/13/21 15:04	07/14/21 07:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		07/14/21 08:43	07/14/21 17:01	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		07/14/21 08:43	07/14/21 17:01	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		07/14/21 08:43	07/14/21 17:01	1
Total TPH	<49.7	U	49.7	mg/Kg		07/14/21 08:43	07/14/21 17:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130			07/14/21 08:43	07/14/21 17:01	1
o-Terphenyl	122		70 - 130			07/14/21 08:43	07/14/21 17:01	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.1		5.00	mg/Kg			07/14/21 12:43	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP4 @ surface

Lab Sample ID: 890-918-7

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 08:09	1
Toluene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 08:09	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 08:09	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		07/13/21 15:04	07/14/21 08:09	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 08:09	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		07/13/21 15:04	07/14/21 08:09	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		07/13/21 15:04	07/14/21 08:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	07/13/21 15:04	07/14/21 08:09	1
1,4-Difluorobenzene (Surr)	90		70 - 130	07/13/21 15:04	07/14/21 08:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 17:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 17:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 17:22	1
Total TPH	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	07/14/21 08:43	07/14/21 17:22	1
o-Terphenyl	133	S1+	70 - 130	07/14/21 08:43	07/14/21 17:22	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31.5		5.03	mg/Kg			07/14/21 12:48	1

Client Sample ID: SP4 @ 1

Lab Sample ID: 890-918-8

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:29	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		07/13/21 15:04	07/14/21 08:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:29	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		07/13/21 15:04	07/14/21 08:29	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		07/13/21 15:04	07/14/21 08:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	07/13/21 15:04	07/14/21 08:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	07/13/21 15:04	07/14/21 08:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 17:43	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP4 @ 1

Lab Sample ID: 890-918-8

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 17:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 17:43	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	07/14/21 08:43	07/14/21 17:43	1
o-Terphenyl	109		70 - 130	07/14/21 08:43	07/14/21 17:43	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	121		4.98	mg/Kg			07/14/21 12:54	1

Client Sample ID: SP5 @ surface

Lab Sample ID: 890-918-9

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:50	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		07/13/21 15:04	07/14/21 08:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 08:50	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		07/13/21 15:04	07/14/21 08:50	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		07/13/21 15:04	07/14/21 08:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	07/13/21 15:04	07/14/21 08:50	1
1,4-Difluorobenzene (Surr)	109		70 - 130	07/13/21 15:04	07/14/21 08:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 18:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 18:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 18:03	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	07/14/21 08:43	07/14/21 18:03	1
o-Terphenyl	124		70 - 130	07/14/21 08:43	07/14/21 18:03	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41.2		4.97	mg/Kg			07/15/21 11:38	1

Eurofins Xenco, Carlsbad



## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP5 @ 1

Lab Sample ID: 890-918-10

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 09:11	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 09:11	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 09:11	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/13/21 15:04	07/14/21 09:11	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 09:11	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/13/21 15:04	07/14/21 09:11	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		07/13/21 15:04	07/14/21 09:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	07/13/21 15:04	07/14/21 09:11	1
1,4-Difluorobenzene (Surr)	111		70 - 130	07/13/21 15:04	07/14/21 09:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 18:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 18:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 18:24	1
Total TPH	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	07/14/21 08:43	07/14/21 18:24	1
o-Terphenyl	121		70 - 130	07/14/21 08:43	07/14/21 18:24	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.6		5.05	mg/Kg			07/15/21 11:44	1

Client Sample ID: NH1 @ surface

Lab Sample ID: 890-918-11

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 10:34	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 10:34	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 10:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 10:34	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 10:34	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 10:34	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 10:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	07/13/21 15:04	07/14/21 10:34	1
1,4-Difluorobenzene (Surr)	93		70 - 130	07/13/21 15:04	07/14/21 10:34	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:06	1

Eurofins Xenco, Carlsbad



## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: NH1 @ surface

Lab Sample ID: 890-918-11

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:06	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:06	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			07/14/21 08:43	07/14/21 19:06	1
o-Terphenyl	124		70 - 130			07/14/21 08:43	07/14/21 19:06	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			07/14/21 20:32	1

Client Sample ID: NH1 @ 1

Lab Sample ID: 890-918-12

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 10:55	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 10:55	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 10:55	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 10:55	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 10:55	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 10:55	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 10:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130			07/13/21 15:04	07/14/21 10:55	1
1,4-Difluorobenzene (Surr)	102		70 - 130			07/13/21 15:04	07/14/21 10:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:27	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 19:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130			07/14/21 08:43	07/14/21 19:27	1
o-Terphenyl	125		70 - 130			07/14/21 08:43	07/14/21 19:27	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.96	U	4.96	mg/Kg			07/14/21 20:37	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: EH1 @ surface

Lab Sample ID: 890-918-13

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:16	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:16	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:16	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 11:16	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:16	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 11:16	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 11:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	07/13/21 15:04	07/14/21 11:16	1
1,4-Difluorobenzene (Surr)	109		70 - 130	07/13/21 15:04	07/14/21 11:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 19:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 19:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 19:47	1
Total TPH	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	07/14/21 08:43	07/14/21 19:47	1
o-Terphenyl	127		70 - 130	07/14/21 08:43	07/14/21 19:47	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.8		4.99	mg/Kg			07/15/21 11:49	1

Client Sample ID: EH1 @ 1

Lab Sample ID: 890-918-14

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:36	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:36	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:36	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 11:36	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:36	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 11:36	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		07/13/21 15:04	07/14/21 11:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	07/13/21 15:04	07/14/21 11:36	1
1,4-Difluorobenzene (Surr)	110		70 - 130	07/13/21 15:04	07/14/21 11:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:08	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: EH1 @ 1

Lab Sample ID: 890-918-14

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:08	1
Total TPH	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	07/14/21 08:43	07/14/21 20:08	1
o-Terphenyl	118		70 - 130	07/14/21 08:43	07/14/21 20:08	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.2		5.04	mg/Kg			07/15/21 11:55	1

Client Sample ID: SH1 @ Surface

Lab Sample ID: 890-918-15

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:57	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:57	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:57	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		07/13/21 15:04	07/14/21 11:57	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/13/21 15:04	07/14/21 11:57	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		07/13/21 15:04	07/14/21 11:57	1
Total BTEX	<0.00397	U	0.00397	mg/Kg		07/13/21 15:04	07/14/21 11:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	07/13/21 15:04	07/14/21 11:57	1
1,4-Difluorobenzene (Surr)	105		70 - 130	07/13/21 15:04	07/14/21 11:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:29	1
Total TPH	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 20:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	07/14/21 08:43	07/14/21 20:29	1
o-Terphenyl	115		70 - 130	07/14/21 08:43	07/14/21 20:29	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.0		5.05	mg/Kg			07/15/21 12:00	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SH1 @ 1

Lab Sample ID: 890-918-16

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 12:18	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 12:18	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 12:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 12:18	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/13/21 15:04	07/14/21 12:18	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 12:18	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		07/13/21 15:04	07/14/21 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	07/13/21 15:04	07/14/21 12:18	1
1,4-Difluorobenzene (Surr)	106		70 - 130	07/13/21 15:04	07/14/21 12:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 20:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 20:50	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 20:50	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 20:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	07/14/21 08:43	07/14/21 20:50	1
o-Terphenyl	104		70 - 130	07/14/21 08:43	07/14/21 20:50	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	212		4.98	mg/Kg			07/14/21 20:59	1

Client Sample ID: WHI @ surface

Lab Sample ID: 890-918-17

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 12:38	1
Toluene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 12:38	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 12:38	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		07/13/21 15:04	07/14/21 12:38	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		07/13/21 15:04	07/14/21 12:38	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		07/13/21 15:04	07/14/21 12:38	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		07/13/21 15:04	07/14/21 12:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	07/13/21 15:04	07/14/21 12:38	1
1,4-Difluorobenzene (Surr)	97		70 - 130	07/13/21 15:04	07/14/21 12:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 21:11	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: WHI @ surface

Lab Sample ID: 890-918-17

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 21:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 21:11	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 21:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			07/14/21 08:43	07/14/21 21:11	1
o-Terphenyl	105		70 - 130			07/14/21 08:43	07/14/21 21:11	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	201		25.3	mg/Kg			07/14/21 21:43	5

Client Sample ID: WHI @ 1

Lab Sample ID: 890-918-18

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 12:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 12:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 12:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 12:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 12:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 12:59	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 12:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			07/13/21 15:04	07/14/21 12:59	1
1,4-Difluorobenzene (Surr)	115		70 - 130			07/13/21 15:04	07/14/21 12:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 21:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 21:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 21:32	1
Total TPH	<49.9	U	49.9	mg/Kg		07/14/21 08:43	07/14/21 21:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130			07/14/21 08:43	07/14/21 21:32	1
o-Terphenyl	108		70 - 130			07/14/21 08:43	07/14/21 21:32	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	224		25.0	mg/Kg			07/14/21 21:59	5

Eurofins Xenco, Carlsbad

## Surrogate Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1	DFBZ1				
		(70-130)	(70-130)				
890-918-1	SP1 @ surface	129	84				
890-918-1 MS	SP1 @ surface	110	95				
890-918-1 MSD	SP1 @ surface	122	106				
890-918-2	SP1 @ 4	116	103				
890-918-3	SP2 @ surface	131 S1+	111				
890-918-4	SP2 @ 1	114	105				
890-918-5	SP3 @ surface	115	104				
890-918-6	SP3 @ 1	113	108				
890-918-7	SP4 @ surface	106	90				
890-918-8	SP4 @ 1	117	105				
890-918-9	SP5 @ surface	117	109				
890-918-10	SP5 @ 1	122	111				
890-918-11	NH1 @ surface	98	93				
890-918-12	NH1 @ 1	121	102				
890-918-13	EH1 @ surface	114	109				
890-918-14	EH1 @ 1	126	110				
890-918-15	SH1 @ Surface	125	105				
890-918-16	SH1 @ 1	120	106				
890-918-17	WHI @ surface	112	97				
890-918-18	WHI @ 1	116	115				
LCS 880-5111/1-A	Lab Control Sample	107	96				
LCSD 880-5111/2-A	Lab Control Sample Dup	98	85				
MB 880-5106/5-A	Method Blank	114	79				
MB 880-5111/5-A	Method Blank	124	89				
<b>Surrogate Legend</b>							
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	OTPH1				
		(70-130)	(70-130)				
890-918-1	SP1 @ surface	106	128				
890-918-1 MS	SP1 @ surface	96	102				
890-918-1 MSD	SP1 @ surface	91	96				
890-918-2	SP1 @ 4	102	119				
890-918-3	SP2 @ surface	105	124				
890-918-4	SP2 @ 1	97	110				
890-918-5	SP3 @ surface	103	121				
890-918-6	SP3 @ 1	106	122				
890-918-7	SP4 @ surface	111	133 S1+				
890-918-8	SP4 @ 1	96	109				
890-918-9	SP5 @ surface	104	124				
890-918-10	SP5 @ 1	100	121				
890-918-11	NH1 @ surface	104	124				
890-918-12	NH1 @ 1	105	125				
890-918-13	EH1 @ surface	105	127				

Eurofins Xenco, Carlsbad



## Surrogate Summary

Client: Etech Environmental &amp; Safety Solutions

Job ID: 890-918-1

Project/Site: Momba Lay Flatline Release

SDG: 14434

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-918-14	EH1 @ 1	100	118
890-918-15	SH1 @ Surface	98	115
890-918-16	SH1 @ 1	93	104
890-918-17	WHI @ surface	93	105
890-918-18	WHI @ 1	94	108
LCS 880-5136/2-A	Lab Control Sample	111	121
LCSD 880-5136/3-A	Lab Control Sample Dup	107	118
MB 880-5136/1-A	Method Blank	109	130
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

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

Lab Sample ID: MB 880-5106/5-A

Matrix: Solid

Analysis Batch: 5114

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5106

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 14:47	07/13/21 18:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 14:47	07/13/21 18:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 14:47	07/13/21 18:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/13/21 14:47	07/13/21 18:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 14:47	07/13/21 18:49	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/13/21 14:47	07/13/21 18:49	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/13/21 14:47	07/13/21 18:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	07/13/21 14:47	07/13/21 18:49	1
1,4-Difluorobenzene (Surr)	79		70 - 130	07/13/21 14:47	07/13/21 18:49	1

Lab Sample ID: MB 880-5111/5-A

Matrix: Solid

Analysis Batch: 5114

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5111

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 05:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 05:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 05:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 05:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/13/21 15:04	07/14/21 05:43	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 05:43	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/13/21 15:04	07/14/21 05:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	07/13/21 15:04	07/14/21 05:43	1
1,4-Difluorobenzene (Surr)	89		70 - 130	07/13/21 15:04	07/14/21 05:43	1

Lab Sample ID: LCS 880-5111/1-A

Matrix: Solid

Analysis Batch: 5114

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5111

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1013		mg/Kg		101	70 - 130
Toluene	0.100	0.1012		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.09894		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.2096		mg/Kg		105	70 - 130
o-Xylene	0.100	0.1008		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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## QC Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

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

Lab Sample ID: LCSD 880-5111/2-A

Matrix: Solid

Analysis Batch: 5114

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5111

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08649		mg/Kg		86	70 - 130	16	35
Toluene	0.100	0.08834		mg/Kg		88	70 - 130	14	35
Ethylbenzene	0.100	0.08585		mg/Kg		86	70 - 130	14	35
m-Xylene & p-Xylene	0.200	0.1710		mg/Kg		85	70 - 130	20	35
o-Xylene	0.100	0.08476		mg/Kg		85	70 - 130	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	85		70 - 130

Lab Sample ID: 890-918-1 MS

Matrix: Solid

Analysis Batch: 5114

Client Sample ID: SP1 @ surface

Prep Type: Total/NA

Prep Batch: 5111

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.101	0.06322	F1	mg/Kg		62	70 - 130		
Toluene	<0.00198	U F1	0.101	0.05621	F1	mg/Kg		55	70 - 130		
Ethylbenzene	<0.00198	U F1	0.101	0.05011	F1	mg/Kg		49	70 - 130		
m-Xylene & p-Xylene	<0.00397	U F1	0.202	0.1004	F1	mg/Kg		50	70 - 130		
o-Xylene	<0.00198	U F1	0.101	0.05297	F1	mg/Kg		51	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-918-1 MSD

Matrix: Solid

Analysis Batch: 5114

Client Sample ID: SP1 @ surface

Prep Type: Total/NA

Prep Batch: 5111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.0994	0.06883	F1	mg/Kg		69	70 - 130	8	35
Toluene	<0.00198	U F1	0.0994	0.06572	F1	mg/Kg		65	70 - 130	16	35
Ethylbenzene	<0.00198	U F1	0.0994	0.05811	F1	mg/Kg		57	70 - 130	15	35
m-Xylene & p-Xylene	<0.00397	U F1	0.199	0.1206	F1	mg/Kg		61	70 - 130	18	35
o-Xylene	<0.00198	U F1	0.0994	0.06041	F1	mg/Kg		60	70 - 130	13	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

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## QC Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

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

Lab Sample ID: MB 880-5136/1-A

Matrix: Solid

Analysis Batch: 5176

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5136

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 13:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 13:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 13:25	1
Total TPH	<50.0	U	50.0	mg/Kg		07/14/21 08:43	07/14/21 13:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	07/14/21 08:43	07/14/21 13:25	1
o-Terphenyl	130		70 - 130	07/14/21 08:43	07/14/21 13:25	1

Lab Sample ID: LCS 880-5136/2-A

Matrix: Solid

Analysis Batch: 5176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	830.3		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	1000	996.1		mg/Kg		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: LCSD 880-5136/3-A

Matrix: Solid

Analysis Batch: 5176

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	759.6		mg/Kg		76	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	1000	980.6		mg/Kg		98	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: 890-918-1 MS

Matrix: Solid

Analysis Batch: 5176

Client Sample ID: SP1 @ surface

Prep Type: Total/NA

Prep Batch: 5136

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	996	887.8		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	996	1148		mg/Kg		113	70 - 130

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## QC Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

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

Lab Sample ID: 890-918-1 MS

Matrix: Solid

Analysis Batch: 5176

Client Sample ID: SP1 @ surface

Prep Type: Total/NA

Prep Batch: 5136

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 890-918-1 MSD

Matrix: Solid

Analysis Batch: 5176

Client Sample ID: SP1 @ surface

Prep Type: Total/NA

Prep Batch: 5136

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	996	899.6		mg/Kg		90	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	996	1077		mg/Kg		106	70 - 130	6	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	96		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-5076/1-A

Matrix: Solid

Analysis Batch: 5130

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			07/13/21 18:52	1

Lab Sample ID: LCS 880-5076/2-A

Matrix: Solid

Analysis Batch: 5130

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	274.7		mg/Kg		110	90 - 110

Lab Sample ID: LCSD 880-5076/3-A

Matrix: Solid

Analysis Batch: 5130

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	272.8		mg/Kg		109	90 - 110	1	20

Lab Sample ID: MB 880-5079/1-A

Matrix: Solid

Analysis Batch: 5203

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			07/14/21 17:36	1

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## QC Sample Results

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-5079/2-A

Matrix: Solid

Analysis Batch: 5203

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	261.3		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-5079/3-A

Matrix: Solid

Analysis Batch: 5203

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	261.3		mg/Kg		105	90 - 110	0	20

Lab Sample ID: MB 880-5080/1-A

Matrix: Solid

Analysis Batch: 5204

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			07/14/21 21:27	1

Lab Sample ID: LCS 880-5080/2-A

Matrix: Solid

Analysis Batch: 5204

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	258.9		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-5080/3-A

Matrix: Solid

Analysis Batch: 5204

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	259.2		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-918-17 MS

Matrix: Solid

Analysis Batch: 5204

Client Sample ID: WHI @ surface

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	201		1260	1559		mg/Kg		108	90 - 110

Lab Sample ID: 890-918-17 MSD

Matrix: Solid

Analysis Batch: 5204

Client Sample ID: WHI @ surface

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	201		1260	1568		mg/Kg		108	90 - 110	1	20

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## QC Association Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

## GC VOA

## Prep Batch: 5106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-5106/5-A	Method Blank	Total/NA	Solid	5035	

## Prep Batch: 5111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-1	SP1 @ surface	Total/NA	Solid	5035	
890-918-2	SP1 @ 4	Total/NA	Solid	5035	
890-918-3	SP2 @ surface	Total/NA	Solid	5035	
890-918-4	SP2 @ 1	Total/NA	Solid	5035	
890-918-5	SP3 @ surface	Total/NA	Solid	5035	
890-918-6	SP3 @ 1	Total/NA	Solid	5035	
890-918-7	SP4 @ surface	Total/NA	Solid	5035	
890-918-8	SP4 @ 1	Total/NA	Solid	5035	
890-918-9	SP5 @ surface	Total/NA	Solid	5035	
890-918-10	SP5 @ 1	Total/NA	Solid	5035	
890-918-11	NH1 @ surface	Total/NA	Solid	5035	
890-918-12	NH1 @ 1	Total/NA	Solid	5035	
890-918-13	EH1 @ surface	Total/NA	Solid	5035	
890-918-14	EH1 @ 1	Total/NA	Solid	5035	
890-918-15	SH1 @ Surface	Total/NA	Solid	5035	
890-918-16	SH1 @ 1	Total/NA	Solid	5035	
890-918-17	WHI @ surface	Total/NA	Solid	5035	
890-918-18	WHI @ 1	Total/NA	Solid	5035	
MB 880-5111/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-5111/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-5111/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-918-1 MS	SP1 @ surface	Total/NA	Solid	5035	
890-918-1 MSD	SP1 @ surface	Total/NA	Solid	5035	

## Analysis Batch: 5114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-1	SP1 @ surface	Total/NA	Solid	8021B	5111
890-918-2	SP1 @ 4	Total/NA	Solid	8021B	5111
890-918-3	SP2 @ surface	Total/NA	Solid	8021B	5111
890-918-4	SP2 @ 1	Total/NA	Solid	8021B	5111
890-918-5	SP3 @ surface	Total/NA	Solid	8021B	5111
890-918-6	SP3 @ 1	Total/NA	Solid	8021B	5111
890-918-7	SP4 @ surface	Total/NA	Solid	8021B	5111
890-918-8	SP4 @ 1	Total/NA	Solid	8021B	5111
890-918-9	SP5 @ surface	Total/NA	Solid	8021B	5111
890-918-10	SP5 @ 1	Total/NA	Solid	8021B	5111
890-918-11	NH1 @ surface	Total/NA	Solid	8021B	5111
890-918-12	NH1 @ 1	Total/NA	Solid	8021B	5111
890-918-13	EH1 @ surface	Total/NA	Solid	8021B	5111
890-918-14	EH1 @ 1	Total/NA	Solid	8021B	5111
890-918-15	SH1 @ Surface	Total/NA	Solid	8021B	5111
890-918-16	SH1 @ 1	Total/NA	Solid	8021B	5111
890-918-17	WHI @ surface	Total/NA	Solid	8021B	5111
890-918-18	WHI @ 1	Total/NA	Solid	8021B	5111
MB 880-5106/5-A	Method Blank	Total/NA	Solid	8021B	5106
MB 880-5111/5-A	Method Blank	Total/NA	Solid	8021B	5111
LCS 880-5111/1-A	Lab Control Sample	Total/NA	Solid	8021B	5111

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## QC Association Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

## GC VOA (Continued)

## Analysis Batch: 5114 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-5111/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	5111
890-918-1 MS	SP1 @ surface	Total/NA	Solid	8021B	5111
890-918-1 MSD	SP1 @ surface	Total/NA	Solid	8021B	5111

## GC Semi VOA

## Prep Batch: 5136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-1	SP1 @ surface	Total/NA	Solid	8015NM Prep	
890-918-2	SP1 @ 4	Total/NA	Solid	8015NM Prep	
890-918-3	SP2 @ surface	Total/NA	Solid	8015NM Prep	
890-918-4	SP2 @ 1	Total/NA	Solid	8015NM Prep	
890-918-5	SP3 @ surface	Total/NA	Solid	8015NM Prep	
890-918-6	SP3 @ 1	Total/NA	Solid	8015NM Prep	
890-918-7	SP4 @ surface	Total/NA	Solid	8015NM Prep	
890-918-8	SP4 @ 1	Total/NA	Solid	8015NM Prep	
890-918-9	SP5 @ surface	Total/NA	Solid	8015NM Prep	
890-918-10	SP5 @ 1	Total/NA	Solid	8015NM Prep	
890-918-11	NH1 @ surface	Total/NA	Solid	8015NM Prep	
890-918-12	NH1 @ 1	Total/NA	Solid	8015NM Prep	
890-918-13	EH1 @ surface	Total/NA	Solid	8015NM Prep	
890-918-14	EH1 @ 1	Total/NA	Solid	8015NM Prep	
890-918-15	SH1 @ Surface	Total/NA	Solid	8015NM Prep	
890-918-16	SH1 @ 1	Total/NA	Solid	8015NM Prep	
890-918-17	WHI @ surface	Total/NA	Solid	8015NM Prep	
890-918-18	WHI @ 1	Total/NA	Solid	8015NM Prep	
MB 880-5136/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5136/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-918-1 MS	SP1 @ surface	Total/NA	Solid	8015NM Prep	
890-918-1 MSD	SP1 @ surface	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 5176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-1	SP1 @ surface	Total/NA	Solid	8015B NM	5136
890-918-2	SP1 @ 4	Total/NA	Solid	8015B NM	5136
890-918-3	SP2 @ surface	Total/NA	Solid	8015B NM	5136
890-918-4	SP2 @ 1	Total/NA	Solid	8015B NM	5136
890-918-5	SP3 @ surface	Total/NA	Solid	8015B NM	5136
890-918-6	SP3 @ 1	Total/NA	Solid	8015B NM	5136
890-918-7	SP4 @ surface	Total/NA	Solid	8015B NM	5136
890-918-8	SP4 @ 1	Total/NA	Solid	8015B NM	5136
890-918-9	SP5 @ surface	Total/NA	Solid	8015B NM	5136
890-918-10	SP5 @ 1	Total/NA	Solid	8015B NM	5136
890-918-11	NH1 @ surface	Total/NA	Solid	8015B NM	5136
890-918-12	NH1 @ 1	Total/NA	Solid	8015B NM	5136
890-918-13	EH1 @ surface	Total/NA	Solid	8015B NM	5136
890-918-14	EH1 @ 1	Total/NA	Solid	8015B NM	5136
890-918-15	SH1 @ Surface	Total/NA	Solid	8015B NM	5136
890-918-16	SH1 @ 1	Total/NA	Solid	8015B NM	5136
890-918-17	WHI @ surface	Total/NA	Solid	8015B NM	5136

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## QC Association Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

## GC Semi VOA (Continued)

## Analysis Batch: 5176 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-18	WHI @ 1	Total/NA	Solid	8015B NM	5136
MB 880-5136/1-A	Method Blank	Total/NA	Solid	8015B NM	5136
LCS 880-5136/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5136
LCSD 880-5136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5136
890-918-1 MS	SP1 @ surface	Total/NA	Solid	8015B NM	5136
890-918-1 MSD	SP1 @ surface	Total/NA	Solid	8015B NM	5136

## HPLC/IC

## Leach Batch: 5076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-1	SP1 @ surface	Soluble	Solid	DI Leach	
890-918-2	SP1 @ 4	Soluble	Solid	DI Leach	
890-918-3	SP2 @ surface	Soluble	Solid	DI Leach	
890-918-4	SP2 @ 1	Soluble	Solid	DI Leach	
890-918-5	SP3 @ surface	Soluble	Solid	DI Leach	
890-918-6	SP3 @ 1	Soluble	Solid	DI Leach	
890-918-7	SP4 @ surface	Soluble	Solid	DI Leach	
890-918-8	SP4 @ 1	Soluble	Solid	DI Leach	
MB 880-5076/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5076/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5076/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

## Leach Batch: 5079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-9	SP5 @ surface	Soluble	Solid	DI Leach	
890-918-10	SP5 @ 1	Soluble	Solid	DI Leach	
890-918-11	NH1 @ surface	Soluble	Solid	DI Leach	
890-918-12	NH1 @ 1	Soluble	Solid	DI Leach	
890-918-13	EH1 @ surface	Soluble	Solid	DI Leach	
890-918-14	EH1 @ 1	Soluble	Solid	DI Leach	
890-918-15	SH1 @ Surface	Soluble	Solid	DI Leach	
890-918-16	SH1 @ 1	Soluble	Solid	DI Leach	
MB 880-5079/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5079/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5079/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

## Leach Batch: 5080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-17	WHI @ surface	Soluble	Solid	DI Leach	
890-918-18	WHI @ 1	Soluble	Solid	DI Leach	
MB 880-5080/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5080/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5080/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-918-17 MS	WHI @ surface	Soluble	Solid	DI Leach	
890-918-17 MSD	WHI @ surface	Soluble	Solid	DI Leach	

## Analysis Batch: 5130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-1	SP1 @ surface	Soluble	Solid	300.0	5076
890-918-2	SP1 @ 4	Soluble	Solid	300.0	5076

Eurofins Xenco, Carlsbad

## QC Association Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

## HPLC/IC (Continued)

## Analysis Batch: 5130 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-3	SP2 @ surface	Soluble	Solid	300.0	5076
890-918-4	SP2 @ 1	Soluble	Solid	300.0	5076
890-918-5	SP3 @ surface	Soluble	Solid	300.0	5076
890-918-6	SP3 @ 1	Soluble	Solid	300.0	5076
890-918-7	SP4 @ surface	Soluble	Solid	300.0	5076
890-918-8	SP4 @ 1	Soluble	Solid	300.0	5076
MB 880-5076/1-A	Method Blank	Soluble	Solid	300.0	5076
LCS 880-5076/2-A	Lab Control Sample	Soluble	Solid	300.0	5076
LCSD 880-5076/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5076

## Analysis Batch: 5203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-9	SP5 @ surface	Soluble	Solid	300.0	5079
890-918-10	SP5 @ 1	Soluble	Solid	300.0	5079
890-918-11	NH1 @ surface	Soluble	Solid	300.0	5079
890-918-12	NH1 @ 1	Soluble	Solid	300.0	5079
890-918-13	EH1 @ surface	Soluble	Solid	300.0	5079
890-918-14	EH1 @ 1	Soluble	Solid	300.0	5079
890-918-15	SH1 @ Surface	Soluble	Solid	300.0	5079
890-918-16	SH1 @ 1	Soluble	Solid	300.0	5079
MB 880-5079/1-A	Method Blank	Soluble	Solid	300.0	5079
LCS 880-5079/2-A	Lab Control Sample	Soluble	Solid	300.0	5079
LCSD 880-5079/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5079

## Analysis Batch: 5204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-918-17	WHI @ surface	Soluble	Solid	300.0	5080
890-918-18	WHI @ 1	Soluble	Solid	300.0	5080
MB 880-5080/1-A	Method Blank	Soluble	Solid	300.0	5080
LCS 880-5080/2-A	Lab Control Sample	Soluble	Solid	300.0	5080
LCSD 880-5080/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5080
890-918-17 MS	WHI @ surface	Soluble	Solid	300.0	5080
890-918-17 MSD	WHI @ surface	Soluble	Solid	300.0	5080



## Lab Chronicle

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP1 @ surface

Lab Sample ID: 890-918-1

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 06:05	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 14:36	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		5	5130	07/13/21 20:47	CH	XEN MID

Client Sample ID: SP1 @ 4

Lab Sample ID: 890-918-2

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 06:26	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 15:38	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		1	5130	07/14/21 12:31	CH	XEN MID

Client Sample ID: SP2 @ surface

Lab Sample ID: 890-918-3

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 06:46	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 15:59	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		5	5130	07/13/21 21:09	CH	XEN MID

Client Sample ID: SP2 @ 1

Lab Sample ID: 890-918-4

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 07:07	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 16:20	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		5	5130	07/13/21 21:15	CH	XEN MID

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP3 @ surface

Lab Sample ID: 890-918-5

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 07:28	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 16:40	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		1	5130	07/14/21 12:37	CH	XEN MID

Client Sample ID: SP3 @ 1

Lab Sample ID: 890-918-6

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 07:48	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 17:01	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		1	5130	07/14/21 12:43	CH	XEN MID

Client Sample ID: SP4 @ surface

Lab Sample ID: 890-918-7

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 08:09	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 17:22	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		1	5130	07/14/21 12:48	CH	XEN MID

Client Sample ID: SP4 @ 1

Lab Sample ID: 890-918-8

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 08:29	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 17:43	AM	XEN MID
Soluble	Leach	DI Leach			5076	07/12/21 16:10	CH	XEN MID
Soluble	Analysis	300.0		1	5130	07/14/21 12:54	CH	XEN MID

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## Lab Chronicle

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: SP5 @ surface

Lab Sample ID: 890-918-9

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 08:50	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 18:03	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/15/21 11:38	CH	XEN MID

Client Sample ID: SP5 @ 1

Lab Sample ID: 890-918-10

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 09:11	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 18:24	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/15/21 11:44	CH	XEN MID

Client Sample ID: NH1 @ surface

Lab Sample ID: 890-918-11

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 10:34	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 19:06	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/14/21 20:32	CH	XEN MID

Client Sample ID: NH1 @ 1

Lab Sample ID: 890-918-12

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 10:55	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 19:27	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/14/21 20:37	CH	XEN MID

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: EH1 @ surface

Lab Sample ID: 890-918-13

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 11:16	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 19:47	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/15/21 11:49	CH	XEN MID

Client Sample ID: EH1 @ 1

Lab Sample ID: 890-918-14

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 11:36	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 20:08	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/15/21 11:55	CH	XEN MID

Client Sample ID: SH1 @ Surface

Lab Sample ID: 890-918-15

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 11:57	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 20:29	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/15/21 12:00	CH	XEN MID

Client Sample ID: SH1 @ 1

Lab Sample ID: 890-918-16

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 12:18	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 20:50	AM	XEN MID
Soluble	Leach	DI Leach			5079	07/12/21 10:14	CH	XEN MID
Soluble	Analysis	300.0		1	5203	07/14/21 20:59	CH	XEN MID

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Client Sample ID: WHI @ surface

Lab Sample ID: 890-918-17

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 12:38	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 21:11	AM	XEN MID
Soluble	Leach	DI Leach			5080	07/12/21 10:19	CH	XEN MID
Soluble	Analysis	300.0		5	5204	07/14/21 21:43	CH	XEN MID

Client Sample ID: WHI @ 1

Lab Sample ID: 890-918-18

Date Collected: 07/09/21 00:00

Matrix: Solid

Date Received: 07/09/21 15:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5111	07/13/21 15:04	KL	XEN MID
Total/NA	Analysis	8021B		1	5114	07/14/21 12:59	KL	XEN MID
Total/NA	Prep	8015NM Prep			5136	07/14/21 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	5176	07/14/21 21:32	AM	XEN MID
Soluble	Leach	DI Leach			5080	07/12/21 10:19	CH	XEN MID
Soluble	Analysis	300.0		5	5204	07/14/21 21:59	CH	XEN MID

## Laboratory References:

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



Accreditation/Certification Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22

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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

## Method Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

**Laboratory References:**

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

## Sample Summary

Client: Etech Environmental & Safety Solutions  
Project/Site: Momba Lay Flatline Release

Job ID: 890-918-1  
SDG: 14434

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
890-918-1	SP1 @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-2	SP1 @ 4	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-3	SP2 @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-4	SP2 @ 1	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-5	SP3 @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-6	SP3 @ 1	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-7	SP4 @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-8	SP4 @ 1	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-9	SP5 @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-10	SP5 @ 1	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-11	NH1 @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-12	NH1 @ 1	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-13	EH1 @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-14	EH1 @ 1	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-15	SH1 @ Surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-16	SH1 @ 1	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-17	WHI @ surface	Solid	07/09/21 00:00	07/09/21 15:12	
890-918-18	WHI @ 1	Solid	07/09/21 00:00	07/09/21 15:12	



**Environment Testing  
Xenco**

## Chain of Custody

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: \_\_\_\_\_

www.xenco.com Page 1 of 2

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	E Tech Environmental	Company Name:	COG
Address:	3100 Plains Hwy	Address:	
City, State ZIP:	Lawington, NM 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	PM@etcchen.v.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: _____

Project Name:	Mamba Jay Flatline Release	Turn Around		ANALYSIS REQUEST										Preservative Codes															
Project Number:	14434	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code													None: NO	DI Water: H <sub>2</sub> O												
Project Location:	Rural Edley co, NM	Due Date:		Parameters	Chlorides	BTEX	TPH	 890-918 Chain of Custody								Cool: Cool	MeOH: Me												
Sampler's Name:	W. M. D. [Signature]	TAT starts the day received by the lab, if received by 4:30pm																									HCL: HC	HNO <sub>3</sub> : HN	
PO #:																												H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na
SAMPLE RECEIPT		Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																									H <sub>3</sub> PO <sub>4</sub> : HP	
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	TRM 003													NaHSO <sub>4</sub> : NABIS													
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No N/A	Correction Factor:	10.2													Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>													
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No N/A	Temperature Reading:	10.0													Zn Acetate+NaOH: Zn													
Total Containers:		Corrected Temperature:														NaOH+Ascorbic Acid: SAPC													
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont											Sample Comments												
SP1 @ surface	Soil	7/9/21		-	G	1	X	X	X																				
SP1 @ 4'				4'			X	X	X																				
SP2 @ surface				-			X	X	X																				
SP2 @ 1'				1'			X	X	X																				
SP3 @ surface				-			X	X	X																				
SP3 @ 1'				1'			X	X	X																				
SP4 @ surface				-			X	X	X																				
SP4 @ 1'				1'			X	X	X																				
SP5 @ surface				-			X	X	X																				
SP5 @ 1'				1'			X	X	X																				

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 <sub>2</sub> Na Sr Ti 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 Ti U	Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [Signature]	[Signature]	07-09-21 1512			
3					
5					

Revised Date: 08/25/2020 Rev. 2020.2



**Environment Testing  
Xenco**

## Chain of Custody

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: \_\_\_\_\_

www.xenco.com Page 2 of 2

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	E-Tech Environmental	Company Name:	CDG
Address:	3100 Plains Hwy	Address:	
City, State ZIP:	Lawton, NM 78260	City, State ZIP:	
Phone:	575-396-2378	Email:	PM@etechnv.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: _____

Project Name:		Turn Around		ANALYSIS REQUEST																Preservative Codes					
Project Number:		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush		Pres. Code																		None: NO DI Water: H <sub>2</sub> O			
Project Location:		Due Date:		Parameters																		Cool: Cool MeOH: Me			
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm																				HCL: HC HNO <sub>3</sub> : HN			
PO #:																						H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na			
SAMPLE RECEIPT		Temp Blank:		Wet Ice:		Yes No																		H <sub>3</sub> PO <sub>4</sub> : HP	
Samples Received Intact:		Yes No		Thermometer ID:		Yes No																		NaHSO <sub>4</sub> : NABIS	
Cooler Custody Seals:		Yes No N/A		Correction Factor:		Yes No																		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	
Sample Custody Seals:		Yes No N/A		Temperature Reading:		Yes No																		Zn Acetate+NaOH: Zn	
Total Containers:				Corrected Temperature:		Yes No																		NaOH+Ascorbic Acid: SAPC	
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont																	Sample Comments	
NH <sub>1</sub> @ surface		Soil	7/9/21		-	Grab	1																		
NH <sub>1</sub> @ 1'					1'																				
EH <sub>1</sub> @ surface					1'																				
EH <sub>1</sub> @ 1'					1'																				
SH <sub>1</sub> @ surface					1'																				
SH <sub>1</sub> @ 1'					1'																				
WH <sub>1</sub> @ surface					1'																				
WH <sub>1</sub> @ 1'					1'																				

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 <sub>2</sub> Na Sr Ti 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 Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	7-09-21 1512			
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2



## Login Sample Receipt Checklist

Client: Etech Environmental &amp; Safety Solutions

Job Number: 890-918-1

SDG Number: 14434

Login Number: 918

List Source: Eurofins Xenco, Carlsbad

List Number: 1

Creator: Clifton, Cloe

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: Etech Environmental &amp; Safety Solutions

Job Number: 890-918-1

SDG Number: 14434

Login Number: 918

List Number: 2

Creator: Lowe, Katie

List Source: Eurofins Xenco, Midland

List Creation: 07/13/21 02:48 PM

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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July 18, 2022

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: MOMBU LAY FLAT LINE RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 07/15/22 12:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	07/15/2022	Sampling Date:	07/15/2022
Reported:	07/18/2022	Sampling Type:	Soil
Project Name:	MOMBU LAY FLAT LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	14434	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

**Sample ID: OL - FL 1 @ 4' (H223092-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2022	ND	1.99	99.5	2.00	2.87	
Toluene*	<0.050	0.050	07/15/2022	ND	2.09	104	2.00	2.57	
Ethylbenzene*	<0.050	0.050	07/15/2022	ND	2.12	106	2.00	1.06	
Total Xylenes*	<0.150	0.150	07/15/2022	ND	6.46	108	6.00	0.144	
Total BTEX	<0.300	0.300	07/15/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/18/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2022	ND	234	117	200	8.36	
DRO >C10-C28*	<10.0	10.0	07/16/2022	ND	244	122	200	1.01	
EXT DRO >C28-C36	<10.0	10.0	07/16/2022	ND					

Surrogate: 1-Chlorooctane 87.3 % 43-149

Surrogate: 1-Chlorooctadecane 88.2 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	07/15/2022	Sampling Date:	07/15/2022
Reported:	07/18/2022	Sampling Type:	Soil
Project Name:	MOMBU LAY FLAT LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	14434	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

**Sample ID: OL - FL 2 @ 4' (H223092-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/15/2022	ND	1.99	99.5	2.00	2.87		
Toluene*	<0.050	0.050	07/15/2022	ND	2.09	104	2.00	2.57		
Ethylbenzene*	<0.050	0.050	07/15/2022	ND	2.12	106	2.00	1.06		
Total Xylenes*	<0.150	0.150	07/15/2022	ND	6.46	108	6.00	0.144		
Total BTEx	<0.300	0.300	07/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	07/18/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2022	ND	234	117	200	8.36	
DRO >C10-C28*	<10.0	10.0	07/16/2022	ND	244	122	200	1.01	
EXT DRO >C28-C36	<10.0	10.0	07/16/2022	ND					

Surrogate: 1-Chlorooctane 90.7 % 43-149

Surrogate: 1-Chlorooctadecane 89.7 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	07/15/2022	Sampling Date:	07/15/2022
Reported:	07/18/2022	Sampling Type:	Soil
Project Name:	MOMBU LAY FLAT LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	14434	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

**Sample ID: OL - NW 1 (H223092-03)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/15/2022	ND	1.99	99.5	2.00	2.87		
Toluene*	<0.050	0.050	07/15/2022	ND	2.09	104	2.00	2.57		
Ethylbenzene*	<0.050	0.050	07/15/2022	ND	2.12	106	2.00	1.06		
Total Xylenes*	<0.150	0.150	07/15/2022	ND	6.46	108	6.00	0.144		
Total BTEx	<0.300	0.300	07/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 118 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	07/18/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2022	ND	234	117	200	8.36	
DRO >C10-C28*	<10.0	10.0	07/16/2022	ND	244	122	200	1.01	
EXT DRO >C28-C36	<10.0	10.0	07/16/2022	ND					

Surrogate: 1-Chlorooctane 93.0 % 43-149

Surrogate: 1-Chlorooctadecane 93.1 % 42.5-161

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	07/15/2022	Sampling Date:	07/15/2022
Reported:	07/18/2022	Sampling Type:	Soil
Project Name:	MOMBU LAY FLAT LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	14434	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

**Sample ID: OL - EW 1 (H223092-04)**

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/15/2022	ND	1.99	99.5	2.00	2.87		
Toluene*	<0.050	0.050	07/15/2022	ND	2.09	104	2.00	2.57		
Ethylbenzene*	<0.050	0.050	07/15/2022	ND	2.12	106	2.00	1.06		
Total Xylenes*	<0.150	0.150	07/15/2022	ND	6.46	108	6.00	0.144		
Total BTX	<0.300	0.300	07/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/18/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2022	ND	234	117	200	8.36	
DRO >C10-C28*	<10.0	10.0	07/16/2022	ND	244	122	200	1.01	
EXT DRO >C28-C36	<10.0	10.0	07/16/2022	ND					

Surrogate: 1-Chlorooctane 90.0 % 43-149

Surrogate: 1-Chlorooctadecane 90.7 % 42.5-161

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	07/15/2022	Sampling Date:	07/15/2022
Reported:	07/18/2022	Sampling Type:	Soil
Project Name:	MOMBU LAY FLAT LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	14434	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

**Sample ID: OL - SW 1 (H223092-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/15/2022	ND	1.99	99.5	2.00	2.87		
Toluene*	<0.050	0.050	07/15/2022	ND	2.09	104	2.00	2.57		
Ethylbenzene*	<0.050	0.050	07/15/2022	ND	2.12	106	2.00	1.06		
Total Xylenes*	<0.150	0.150	07/15/2022	ND	6.46	108	6.00	0.144		
Total BTEx	<0.300	0.300	07/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 118 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/18/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2022	ND	234	117	200	8.36	
DRO >C10-C28*	<10.0	10.0	07/16/2022	ND	244	122	200	1.01	
EXT DRO >C28-C36	<10.0	10.0	07/16/2022	ND					

Surrogate: 1-Chlorooctane 86.7 % 43-149

Surrogate: 1-Chlorooctadecane 89.2 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	07/15/2022	Sampling Date:	07/15/2022
Reported:	07/18/2022	Sampling Type:	Soil
Project Name:	MOMBU LAY FLAT LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	14434	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

**Sample ID: OL - WW 1 (H223092-06)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2022	ND	1.99	99.5	2.00	2.87	
Toluene*	<0.050	0.050	07/15/2022	ND	2.09	104	2.00	2.57	
Ethylbenzene*	<0.050	0.050	07/15/2022	ND	2.12	106	2.00	1.06	
Total Xylenes*	<0.150	0.150	07/15/2022	ND	6.46	108	6.00	0.144	
Total BTEx	<0.300	0.300	07/15/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	07/18/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2022	ND	234	117	200	8.36	
DRO >C10-C28*	<10.0	10.0	07/16/2022	ND	244	122	200	1.01	
EXT DRO >C28-C36	<10.0	10.0	07/16/2022	ND					

Surrogate: 1-Chlorooctane 85.4 % 43-149

Surrogate: 1-Chlorooctadecane 88.5 % 42.5-161

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**101 East Marland, Hobbs, NM 88240**  
**(575) 393-2326 FAX (575) 393-2476**

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 9 of 9

Company Name: E-Tech Environmental & Safety Solutions, Inc

Project Manager: Jack Lowry

Address: 7617 Marland

City: Houston State: NM Zip: 88240

Phone #: 575-264-9884 Fax #:

Project #: 14434 Project Owner: COG

Project Name: Momba Lay Flat Line Release

Project Location: Rural Eddy Co, NM

Sampler Name: Miguel Ramirez

BILL TO

P.O. #:

Company: COG

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY	Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING													
					GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER:	DATE TIME													
	H223092	1 OL-FL10 @ 4' - NW	✓	✓	✓	✓	7/15/12	✓	✓	✓										
		2 OL-FL2 @ 4' - NW	✓	✓	✓	✓		✓	✓	✓										
		3 OL-NW1	✓	✓	✓	✓		✓	✓	✓										
		4 OL-EW1	✓	✓	✓	✓		✓	✓	✓										
		5 OL-SW1	✓	✓	✓	✓		✓	✓	✓										
		6 OL-WW1	✓	✓	✓	✓		✓	✓	✓										

Chlorides

BTEX

TPH

✓

✓

✓

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Relinquished By: [Signature]

Date: 7-15-22

Time: 1245

Received By: [Signature]

Date:

Time:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

REMARKS: pmpe@techenv.com

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C 3.9

Corrected Temp. °C 3.3

Sample Condition

Cool Intact

☐ Yes ☐ No

CHECKED BY: (Initials)

TO

Turnaround Time: Standard Rush

Thermometer ID #113

Correction Factor 0.5°C

Bacteria (only)

Cool Intact

☐ Yes ☐ No

Sample Condition

Observed Temp. °C

Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to [coley.keene@cardinallabsnm.com](mailto:coley.keene@cardinallabsnm.com)



## **Appendix D**

### **Photographic Log**

## Photographic Log

<b>Photo Number:</b> 1	 <div>Jul 12, 2021 at 8:19:11 AM +32.090642,-104.071328 ±5.00m 219° SE</div> 
<b>Photo Direction:</b> Southwest	
<b>Photo Description:</b>  View of the point of release.	

<b>Photo Number:</b> 2	 <div>Jul 12, 2021 at 8:18:57 AM +32.090704,-104.071435 ±5.00m 122° SE</div> 
<b>Photo Direction:</b> East-Southeast	
<b>Photo Description:</b>  View of the affected area.	



## Photographic Log

<b>Photo Number:</b> 3	
<b>Photo Direction:</b> West	
<b>Photo Description:</b>  View of the affected area.	

<b>Photo Number:</b> 4	
<b>Photo Direction:</b> East-Southeast	
<b>Photo Description:</b>  View of the affected area.	



## Photographic Log





## Photographic Log





## Photographic Log

<b>Photo Number:</b> 9	 <p>Jul 15, 2022 at 9:40:18 AM +32.090700,-104.071214 73° E Eddy County</p>
<b>Photo Direction:</b> East-Northeast	
<b>Photo Description:</b>  View of the excavated area.	

<b>Photo Number:</b> 10	 <p>Jul 20, 2022 at 3:10:34 PM 161° S Pecos Hwy Carlsbad NM 88220 United States Altitude:894.8meter Speed:5.3km/h 32.090824, -104.071143</p>
<b>Photo Direction:</b> South-Southeast	
<b>Photo Description:</b>  View of the remediated area after backfilling and regrading.	



## Photographic Log



## **Appendix E**

### **Regulatory Correspondence**

**From:** [Lance Crenshaw](#)  
**To:** [Enviro, OCD, EMNRD](#)  
**Cc:** [Ben Arguijo](#); [Joel Lowry](#)  
**Subject:** Excavation Confirmation Sampling notice for napp2120130933  
**Date:** Tuesday, July 19, 2022 11:11:57 AM

---

This email serves as notice that Etech intends to collect excavation confirmation soil samples from the following locations/reportable release sites:

Concho Oil & Gas – Momba Lay Flat Line– napp2120130933

If you have any questions or need any additional information, please contact Lance Crenshaw by phone (575-631-2532) or email ([lance@etechenv.com](mailto:lance@etechenv.com)).

Thank you and have a great day.

**Lance Crenshaw**  
**Etech Environmental & Safety Solutions**  
**575-631-2532**

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 144438

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 144438
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please provide OCD information (contents of release and volume, C141 status, 3rd party, etc) on the second release that occurred at the site on 9/27/21 that overlapped with this release (SP1).	11/16/2022