

# Revised Site Characterization Report and Remediation Workplan

September 15, 2024

Anderson Ranch Unit #017H Crude Oil and Produced Water Release Incident #: nAPP2321553613

**Prepared For:** 

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#### 1.0 Introduction

Crain Environmental (CE), on behalf of Grand Banks Energy Company (GBE), has prepared this Revised *Site Characterization Report and Remediation Workplan* for the crude oil and produced water release at Anderson Ranch Unit #017H (Site), located approximately 25 miles west of Lovington, in Lea County, New Mexico. The global positioning system (GPS) coordinates for the Site are 32.9489174, -103.7349548. The property surface rights are owned by the State of New Mexico. The location of the Release Site is depicted on Figure 1.

#### 2.0 Background

On August 1, 2023, a fire occurred at the tank battery, causing a release of crude oil and produced water from the storage tanks. The New Mexico Oil Conservation Division (NMOCD) was immediately informed of the release.

An initial Release Notification Report (C-141) was received by the NMOCD on August 18, 2023, and the Site was assigned Incident # nAPP2321553613. It was estimated that approximately 46 barrels (bbls) of crude oil and 979 bbls of produced water were released, and 500 bbls of produced water was recovered by vacuum truck. The release was mainly contained within the firewall of the tank battery and covered a surface area of approximately 11,400 square feet. The surface extent of the crude oil and produced water release are depicted on Figure 2. A copy of the C-141 is provided in Appendix A.

A Site Characterization Report and Remediation Workplan (Workplan) was submitted to the NMOCD on November 15, 2023, and was denied on March 6, 2024, with the following comments:

- The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.
- 2. Release has not been fully delineated.
- 3. According to NMOCD Environmental Map, the release encroached within a wetland area located north of the well pad.
- 4. Please provide an accurate floodplain map. Map furnished is illegible.
- 5. Due to the proximity of the wetland area, the use of microblaze chemical treatment is denied.
- 6. Variance request to increase sampling frequency from 200 to 900 square feet is denied. The maximum amount allowed is 400-500 square feet per one (1) 5-point composite sample showing that depth to water is at least >50 feet below grade and that no other siting is adversely affected.
- 7. All reclamation activities should adhere to 19.15.29.13 NMAC. Per 19.15.29.13D NMAC, Reclamation of areas no longer in use. The responsible party shall reclaim all areas disturbed by the remediation and closure, except areas reasonable needed for production operations or for subsequent drilling operations, as early and as nearly as practical to their original condition or their final land use and maintain those areas to control dust and minimize erosion to the extent practical.
- 8. Grand Banks Energy has until June 4, 2024, to submit to OCD a revised site characterization/remediation plan or final remediation closure report.



On April 17, 2024, CE reached out to NMOCD to schedule a call to discuss the comments. On April 24, 2024, CE was advised that the Workplan would be approved for the use of MicroBlaze if depth to groundwater could be confirmed to be greater than 50' below ground surface (bgs), and a description of the area north of the tank battery (referred to as a "playa lake") was provided. That information was provided to the NMOCD in an email on April 24, 2024. In a phone call with the NMOCD on May 16, 2024, CE was also advised that soil samples between the tank battery and the "playa lake" showing that the release had not affected the "playa" would also be required before the remediation using MicroBlaze would be approved. Those samples were collected on May 20, 2024, and laboratory results were received on June 3, 2024. On July 15, 2024, CE again reached out to NMOCD and discussed ex-situ treatment of the soil with MicroBlaze.

On August 13, 2024, CE and the New Mexico State Land Office (SLO) Environmental Compliance Office (ECO) held a conference call to discuss soil remediation using MicroBlaze, and the variance to the set back of the the "playa lake".

This *Revised Site Characterization Report and Remediation Workplan* (Workplan) provides all information requested by the NMOCD in their denial of March 6, 2024, and in subsequent conversations, and all information requested by the ECO in the August 13, 2024, conference call. The Workplan revises the proposed remediation to include ex-situ treatment with MicroBlaze, eliminates the variance to the set back of the "playa lake", eliminates the variance to the confirmation sampling frequency, and adds details of the construction of the soil treatment area and the collection of confirmation samples from the treatment area before and after soil treatment.

#### 3.0 NMOCD Closure Criteria

Cleanup standards for produced water spills are provided in 19.15.29 NMAC. The cleanup standards (described in the rule as "Closure Criteria") are based primarily on depth to groundwater but are also based on other criteria. Three different Closure Criteria are provided in the rule. The most stringent apply to sites where groundwater is found within 50 feet of the ground surface or if the release occurred within one of the following areas:

- Within 300 feet of any continuously flowing watercourse or any other significant watercourse.
- Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary highwater mark).
- Within 300 feet from an occupied permanent residence, school, hospital, institution or church.
- Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes.
- Within 1,000 feet of any fresh water well or spring.
- Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended.
- Within 300 feet of a wetland.
- Within the area overlying a subsurface mine.
- Within an unstable area such as a karst formation.
- Within a 100-year floodplain.



CE reviewed available information to determine the Closure Criteria for the Site. The findings of this evaluation are summarized below.

#### 3.1 Groundwater Evaluation

A review of the New Mexico Office of the State Engineer (NMOSE) records indicated there are three water wells located within 0.5 mile of the Site that provide an initial depth to groundwater, and one water well that did not provide an initial depth to groundwater. Depth to groundwater in the three wells within a 0.5-mile radius of the Site ranged from 250 to 275 feet below ground surface (bgs), with depth to groundwater in the nearest well (L 02467 – drilled in 1954) initially recorded at 275 feet bgs. The most recent well to be installed (L 08241) was drilled approximately 1,665 feet southeast of the Site in 1980, and an initial depth to water was not recorded. A review of the United State Geological Survey (USGS) water well records indicated there was one water well located within 0.5 miles of the Site that provided depth to groundwater information until 2006.

All wells located within a 0.5-mile from the Site, with depth to groundwater information provided, are listed in the table below, and the location of all wells is provided on Figure 3. Based on the water well data available in NMOSE records, it is estimated that depth to groundwater at the Site is greater than 100 feet bgs. A copy of the USGS well information is provided in Appendix B.

Well ID	Location from Release Site	Year Installed	Use	Well Depth and Depth to Water (feet bgs)
L 02467	Approx. 325' to the northeast	1954	N/A	328 / 275
L 02617	Approx. 1,745' to the southeast	1954	N/A	322 / 270
L 03631	Approx. 2,490' to the northeast	1957	N/A	315 / 250
L 08241	Approx. 1,665' to the southeast	1980	N/A	316 / NA
USGS Well 325650103435601	Approx. 1,041' to the southeast	1961 – monitored until 2006	N/A	2/16/2006 – Depth to water = 213.20

#### **Nearby Water Wells**

#### 3.2 Surface Features and Other Development

CE reviewed recent aerial photographs, topographic maps, the NMOSE Point of Discharge (POD) GIS website, and information available from the Lea County, New Mexico Central Appraisal District website. As shown on Figures 1, the Site is <u>not</u> located:

- Within 300 feet of any continuously flowing watercourse or any other significant watercourse.
  - The topographic map (Figure 1) shows a "playa lake" within 200 feet of the Site.
- Within 300 feet from an occupied permanent residence, school, hospital, institution or church.
  - The Site Location Map (Figure 1) and information available from the Lea County, New Mexico Central Appraisal District do not show or list any permanent residence, school, hospital, institution, or church located within 300 feet of the Site.



- Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes.
  - No wells or springs located within 500 feet of the Site appear in any of the NMOSE records reviewed by CE.
- Within 1,000 feet of any fresh water well or spring.
  - No freshwater wells or springs located within 1,000 feet of the Site appear in any of the records reviewed by CE.
- Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended.
  - Based on the property and other records review by CE, the Site is not located in incorporated municipal boundaries or within a defined municipal fresh water well field.
- Within the area overlying a subsurface mine
  - Based on the property and other records reviewed by CE, the Site is not located within an area overlying a subsurface mine.

#### 3.3 Wetlands, Floodplain, and Karst Geology

A review of the United States Fish and Wildlife Service (USFWS) wetlands map (Figure 4) indicated the Site is not located within 200 feet of a wetland. The New Mexico Bureau of Land Management (BLM) karst potential map indicates the Site is located within a "low karst potential" area. Figure 5 depicts the karst potential data.

A review of the Federal Emergency Management Act (FEMA) floodplain map indicates the release is in an unmapped area (Figure 6); however, the topographic map (Figure 1) and the National Wetlands Inventory Map (Figure 7) shows the site to be within 200' of a playa lake.

Documentation of the playa lake conditions, and soil sample results collected between the release area and the playa are provided in Section 5.1 of this Workplan. A request for a variance toward the setback of the playa lake (per 19.15.29.12(c)(4a) (II) has been eliminated at the request of the ECO.

#### 3.4 Closure Criteria Currently Assumed Applicable to the Site

At the request of the ECO, the Closure Criteria applicable to the Site will be based on the distance to the "playa lake", which dictates the most stringent regulatory guidelines typically associated with groundwater depths of less than 50 feet bgs. A summary of the Closure Criteria is provided in the table below.

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#### **NMOCD Closure Criteria**

		Closure Criteria Based on Depth to Groundwater (mg/kg)			
Consti	tuent of Concern	≤ 50 feet bgs	51 feet to 100 feet bgs	> 100 feet bgs	
Chlo	ride (EPA 300)	600	10,000	20,000	
TPH (EPA	GRO + DRO + MRO	100	2,500	2,500	
8015M)	GRO + DRO	NA	1,000	1,000	
Total BTE>	(EPA 8021 or 8260)	50	50	50	
Benzene	(EPA 8021 or 8260)	10	10	10	

Notes: NA = not applicable

bgs = below ground surface

mg/kg = milligrams per kilogram GRO = gasoline range organics

DRO = diesel range organics

MRO = motor oil range organics

TPH = total petroleum hydrocarbons

BTEX = benzene, toluene, ethylbenzene, and total xylenes

Green highlighted cells denote applicable Closure Criteria.

#### 4.0 Site Assessment/Characterization Results

As per 19.15.29.11 NMAC, a Site Characterization Report will have the components described in Sections 4.1 through 4.5 of this document.

#### 4.1 Site Map

As required by 19.15.29.11 NMAC, a scaled diagram showing significant Site infrastructure, sample point locations, and known subsurface features such as utilities is provided as Figure 2.

#### 4.2 Depth to Groundwater

As discussed in Section 3.1, depth to groundwater at the Site is greater than 100 feet bgs. During investigation activities, a maximum depth of 10 feet bgs was reached, at which groundwater was not encountered.

#### 4.3 Wellhead Protection Area

The 0.5-mile wellhead protection area is shown on Figure 3. Four water wells that provide depth to groundwater data are located within 0.5 mile of the Site. A "playa lake" is located within 200 feet of the Site.

#### 4.4 Distance to Nearest Significant Watercourse

The horizontal distance to the nearest significant watercourse as defined in Subsection P of 19.15.17.7 NMAC is greater than 0.5-mile from the Site.



#### 4.5 Summary of September 2023 Remediation and Analytical Results

On August 1, 2023, 500 bbls of fluid was removed from the site by vacuum truck and hauled to an NMOCD approved disposal facility.

From September 19, through September 27, 2023, storage tanks and equipment were dismantled and hauled to Gandy Marley, Inc. (GMI) disposal facility. Additionally, the liner was removed from the tank battery, and saturated soil was excavated and removed. A total of 27 loads of metal, debris, and soil was hauled to GMI for disposal.

On September 29, 2023, a backhoe was used to excavate five test holes (TH-1 through TH-5). Test holes TH-1 and TH-2 were dug within the tank battery area, at depths ranging from 9 feet (') (TH-2) to 10' bgs (TH-1). Soil samples were collected at the surface, and at depths of 5' bgs, and the total depth of the hole (i.e., 10' bgs at TH-1 and 9' bgs at TH-2). Test hole TH-3 was installed north of the tank battery, to a depth of 5' bgs. Soil samples were collected at the surface, and at depths of 3' and 5' bgs. As GBE had originally planned to plug and abandon (P&A) the Anderson Ranch Unit #017H well, test holes TH-4 and TH-5 were installed on the well pad to the east (TH-4) and west (TH-5) of the well. Soil samples were collected from TH-4 at surface and 5' bgs, and samples were collected from TH-5 at surface and 2.5' bgs. GBE has since decided not to P&A this well.

All soil samples were placed in clean glass sample jars, properly labeled, immediately placed on ice and hand delivered to Eurofins Environment Testing (Eurofins) in Midland, Texas under proper chain-ofcustody control. All samples were analyzed for total petroleum hydrocarbons (TPH) by Environmental Protection Agency (EPA) SW-846 Method 8015 Modified, for benzene, toluene, ethylbenzene and xylenes (collectively referred to as BTEX) by EPA SW-846 Method 8021B, and for chlorides by EPA Method SM-4500CI-B.

Table 1 provides a summary of the laboratory results, and sample locations with TPH, BTEX, and chloride concentrations are provided on Figure 2. Photographs of the release area are provided in Appendix C. The laboratory report and chain-of-custody documentation is provided in Appendix D.

Referring to Table 1, concentrations of BTEX were reported below the test method detection limits and/or Closure Criteria in all samples. Concentrations of TPH exceeded the Closure Criteria at sample points TH-1 at a depth of 0-6" bgs (1,420 mg/kg), TH-2 at a depth of 0-6" (3,770 mg/kg), TH-3 at depths of 0-6" bgs (103 mg/kg) and 3' bgs (1,430 mg/kg), and TH-4 at depths of 0-6" bgs (5,320 mg/kg) and 5' bgs (2,540 mg/kg total Gasoline Range Organics [GRO] and Diesel Range Organics [DRO]). Chloride concentrations exceeded the Closure Criteria in the surface samples (0-6") of TH-1 (2,990 mg/kg), TH-2 (2,710 mg/kg), and TH-4 (735 mg/kg).

Vertical delineation of TPH and chloride concentrations was achieved at test holes TH-1, TH-2, TH-3, and TH-5. Vertical delineation of Total TPH (GRO+DRO) remained above the Closure Criteria at the total depth of 5' bgs at test hole TH-4 (2,540 mg/kg).

On May 20, 2024, two test holes (TH-7 and TH-8) were installed between the release area and the "playa lake" (as shown on Figure 2) to provide documentation that the playa was not affected by the release. Soil samples were collected at depths of 1', 2', 3', and 4' bgs at each location, were properly collected, stored on ice, and hand delivered to Eurofins for analysis of TPH, BTEX, and chlorides. Referring to Table 1, concentrations of TPH, BTEX, and chlorides were reported below the NMOCD Closure Criteria in each sample. Photographs are provided in Appendix C. The laboratory report and chain-of-custody documentation is provided in Appendix D.



Soils with TPH and chloride exceedances will be addressed in accordance with the Remediation Workplan discussed in Section 5.0.

#### 4.6 Laboratory Analytical Data Quality Assurance/Quality Control Results

Data in the laboratory reports dated October 11, 2023, and May 24, 2024, generated by Eurofins in Midland, Texas, was reviewed to ensure that reported analytical results met data quality objectives. It was determined by quality control data associated with analytical results that reported concentrations of target analytes are defensible and that measurement data reliability is within the expected limits of sampling and analytical error. All analytical results are usable for characterization of soil at the Site. The laboratory analytical results are provided as Appendix D.

#### 5.0 Proposed Remediation Workplan

#### 5.1 Proposed Remediation Activities

Benzene and BTEX concentrations were reported below the test method detection limits and/or Closure Criteria in all samples. Concentrations of TPH exceeded the Closure Criteria at sample points TH-1 at a depth of 0-6" bgs (1,420 mg/kg), TH-2 at a depth of 0-6" (3,770 mg/kg), TH-3 at depths of 0-6" bgs (103 mg/kg) and 3' bgs (1,430 mg/kg), and TH-4 at depths of 0-6" bgs (5,320 mg/kg) and 5' bgs (2,540 mg/kg total Gasoline Range Organics [GRO] and Diesel Range Organics [DRO]). Chloride concentrations exceeded the Closure Criteria in the surface samples (0-6") of TH-1 (2,990 mg/kg), TH-2 (2,710 mg/kg), and TH-4 (735 mg/kg).

Vertical delineation of TPH and chloride concentrations was achieved at test holes TH-1, TH-2, TH-3, and TH-5. Vertical delineation of Total TPH (GRO+DRO) remained above the Closure Criteria at the total depth of 5' bgs at test hole TH-4 (2,540 mg/kg). GBE proposes to excavate the upper 1 foot of soil from the affected areas (approximately 520 cy) and haul the soil to disposal at GMI.

The remaining affected soil will be excavated and stockpiled on the southern portion of the well pad and will be treated by tilling and Microblaze application until TPH and chloride concentrations are reported below the Closure Criteria. It is estimated that a total of approximately 2,000 cubic yards (cy) of soil will be either excavated and hauled to an NMOCD approved disposal facility or treated with Microblaze. Figure 2 indicates the areas of proposed remediation.

Prior to placement of soil in the treatment area, 10 discrete soil samples will be collected throughout the area at a depth of 0-6" bgs to determine baseline soil concentrations. As initial BTEX concentrations were below the test method detection limit, each sample will be delivered to Eurofins for analysis of TPH and chlorides. Berms will be constructed on the north and east sides of the treatment area to ensure that treatment fluids are not introduced to the "playa lake". Figure 8 indicates the area proposed for soil treatment and shows the sample locations.

Following sample collection at the treatment area, all impacted soil will be excavated from the release area, moved to the treatment area, and spread to a depth of approximately 18". One gallon of MicroBlaze will be used to remediate each approximately 10 cubic yards of soil and will be mixed at a ratio of 1-gallon MicroBlaze to 10 gallons of fresh water. Fresh water will be added to the treatment area as necessary to keep the MicroBlaze moist during remediation activities.



Following excavation of impacted soil, samples will be collected from the base and sidewalls of the excavation (at a rate of 1 sample per 200 square feet) and delivered to Eurofins for analysis of TPH and chlorides. Excavation will continue if TPH and/or chloride concentrations are reported above the Closure Criteria. As initial BTEX concentrations were below the test method detection limits and/or Closure Criteria, each confirmation sample will be analyzed only for TPH and chlorides. Pursuant to 19.15.29.12(D) NMAC, confirmation samples will consist of five-point composite samples, and discrete grab samples will be collected from any wet or discolored areas.

Following ex situ soil treatment, samples will be collected from the treated soil at a rate of 1 sample per 100 cy of soil. All samples will be analyzed for TPH and chlorides. Treatment will continue until all TPH and chloride concentrations are reported below the Closure Criteria. Upon receipt of laboratory results that all TPH and chloride concentrations are below the Closure Criteria, the excavation will be backfilled to grade with the treated soil. Pursuant to 19.15.29.13 NMAC, the impacted surface areas will be restored to pre-release conditions. Surface grading will be performed to near original conditions and contoured to prevent erosion and ponding, promote stability, and preserve storm water flow patterns.

Upon removal of all treated soil from the treatment area, 10 discrete soil samples will be collected throughout the area at a depth of 0-6" bgs to ensure that the well pad was not affected by soil treatment. As initial BTEX concentrations were below the test method detection limit, each sample will be delivered to Eurofins for analysis of TPH and chlorides. Figure 8 shows the sample locations.

#### 5.2 Proposed Reclamation Activities

AS GBE no longer desires to P&A the well, caliche will not be removed from the well pad and access road at this time. Upon completion of remediation, any areas that were disturbed north of the well pad will be cross ripped to a minimum of 18 inches (unless caliche is encountered at a shallower depth) with a furrow spacing of 2 feet, following backfill of any excavation.

Seeding will be conducted within 2 weeks following completion of final seedbed preparation. According to the United States Department of Agriculture (USDA) Web Soil Survey, soil at the Anderson Ranch #17H is classified as (KO) Kimbrough, gravelly loam, dry, 0-3% slopes. The Revegetation Plan therefore requires the Coarse (CS) NMSLO Seed Mix. Following surface grading and contouring, any disturbed areas off the well pad will be re-seeded by seed drill method using the (CS) NMSLO Seed Mix (planted in the amount specified in the pounds live seed (PLS) per acre), and fresh water will be applied for two consecutive weeks following re-seeding. Reclamation activities will be documented with photographs.

#### 5.3 Reclamation Monitoring

Any seeded areas will be monitored for vegetation growth to ensure that the reclamation activities performed were sufficient. Annual inspections (at a minimum) will take place until revegetation is consistent with local natural vegetation density. Upon completion of revegetation, a copy of the C-103 submitted to the NMOCD will also be submitted to the New Mexico State Land Office Environmental Compliance Office (ECO) for final inspection and release.

#### 5.4 Schedule of Reclamation Implementation

Site reclamation activities will begin within two weeks of completion of remediation activities, or within the next favorable growing season.



#### 6.0 Proposed Remediation Schedule

GBE requests a remediation schedule of 180 days from the date of NMOCD approval of this Remediation Workplan to complete the proposed remediation and reclamation activities and submit a *Remediation Summary and Closure Report* for NMOCD approval, pending the results of the confirmation samples. If additional treatment is required, a time extension may be requested. The closure report will summarize remedial activities and confirmation sampling results and will include the final Form C-141.

#### 7.0 Distribution

 Copy 1: Mike Bratcher New Mexico Energy, Minerals, and Natural Resources Department Oil Conservation Division, District 2 Via Email: mike.bratcher@emnrd.nm.gov
 Copy 2: New Mexico State Land Office Environmental Compliance Office Via Email: eco.state.nm.us
 Copy 3: Chris Gaddy Octane Energy Company 310 West Wall, Suite 300 Midland, Texas 79701



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TABLE

#### TABLE 1 SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS GRAND BANKS ENERGY COMPANY ANDERSON RANCH UNIT #017H Incident # nAPP2321553613

Sample ID	Sample Date	Sample Depth	Soil Status	TPH (GRO)	TPH (DRO)	TPH (MRO)	Total TPH	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	Chloride
	Duite	(feet bgs)		(01(0))			<u>.                                    </u>	milligra	ams per kilogra	m (mg/kg)	<u>.                                    </u>	<u> </u>	
NMOCD C	losure Crite	eria (0-4' bg	ls)	-	-	-	100	10	-	-	-	50	600
NMOCD Clo	sure Criteria	a (Below 4'	bgs)	1,0	000	-	2,500	10	-	-	-	50	10,000
TH-1 (0-6")	09/29/23	0-6"	In Situ	<49.9	1,420	<49.9	1,420	<0.0198	0.0438	0.0256	0.0888	0.158	2,990
· · ·	09/29/23	5	In Situ	<49.7	892	<49.7	892	<0.0200	<0.0200	<0.0200	<0.0401	<0.0401	2,130
	09/29/23	10	In Situ	<50.4	<50.4	<50.4	<50.4	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	3,160
TH-2 (0-6")	09/29/23	0-6"	In Situ	<50.5	3,770	<50.5	3,770	<0.00200	<0.00200	<0.00200	< 0.00399	<0.00399	2,710
=(•••)	09/29/23	5	In Situ	<49.8	239	<49.8	239	< 0.00201	< 0.00201	<0.00201	< 0.00402	< 0.00402	1.780
	09/29/23	9	In Situ	<49.6	64.8	<49.6	64.8	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	146
TH-3 (0-6")	09/29/23	0-6"	In Situ	<49.6	103	<49.6	103	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	49.2
	09/29/23	3	In Situ	<50.2	1.430	<50.2	1,430	< 0.00199	< 0.00199	< 0.00199	< 0.00398	< 0.00398	230
	09/29/23	5	In Situ	<50.5	<50.5	<50.5	<50.5	<0.00200	<0.00200	<0.00200	< 0.00399	< 0.00399	222
TH-4 (0-6")	09/29/23	0-6"	In Situ	<253	5.320	<253	5,320	<0.00200	<0.00200	<0.00200	0.0122	0.0122	735
	09/29/23	5	In Situ	<49.9	2,540	<49.9	2,540	<0.00199	< 0.00199	< 0.00199	< 0.00398	< 0.00398	246
TH-5 (0-6")	09/29/23	0-6"	In Situ	<49.7	<49.7	<49.7	<49.7	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	59.6
TH-5 (0-6 )	09/29/23	2.5	In Situ In Situ	<49.7	<49.7	<49.7	<49.7	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	113
TH-7 (1')	05/20/24	1	In Situ	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00404	< 0.00404	<5.03
TH-7 (2')	05/20/24	2	In Situ	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00400	<0.00404	<4.99
TH-7 (3')	05/20/24	3	In Situ	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00399	<0.00400	<5.00
TH-7 (4')	05/20/24	4	In Situ	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<4.96
TH-8 (1')	05/20/24	1	In Situ	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00397	< 0.00397	230
TH-8 (2')	05/20/24	2	In Situ	<49.9	<49.9	<49.9	<49.9	<0.00130	<0.00202	<0.00202	<0.00337	<0.00337	140
TH-8 (3')	05/20/24	3	In Situ	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00402	<0.00402	280
TH-8 (4')	05/20/24	4	In Situ	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	< 0.00399	< 0.00399	40

Notes:

1. GRO: Gasoline Range Organics

2. DRO: Diesel Range Organics

3. MRO: Motor Oil Range Organics

4. bgs: below ground surface

5. Bold and highlighting indicates the COC was detected above the NMOCD Closure Criteria.

6. < indicates the COC was below the appropriate laboratory method/sample detection limit

7. Yellow highlighting indicates the COC concentration exceeds the NMOCD Closure Criteria.



FIGURES







#### Received by OCD: 9/15/2024 7:26:34 PM













Appendix A: Release Notification and Corrective Action Form (NMOCD Form C-141) and NMOCD Communication

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Page 25cof 137

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

)

Incident ID	nAPP2321553613
District RP	
Facility ID	
Application ID	

## **Release Notification**

### **Responsible Party**

Responsible Party Grand Banks Energy Co	OGRID 155471
Contact Name Brian Scarborough	Contact Telephone 432-967-2862
Contact email bhs33160@gmail.com	Incident # (assigned by OCD)
Contact mailing address 10 Desta Drive, Suite 300-E Midland, Texas 79705	

### **Location of Release Source**

Latitude 32.94891

Longitude -103.73495 (NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Anderson Ranch Unit #017H	Battery
Date Release Discovered 08/01/2023	API# ( <i>if applicable</i> ) 30-025-00367

Unit Letter	Section	Township	Range	County
J	2	16S	32 E	Lea

Surface Owner: 🛛 State 🗌 Federal 🗌 Tribal 🗌 Private (*Name:* \_

## Nature and Volume of Release

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

Crude Oil	Volume Released (bbls) 46	Volume Recovered (bbls) 0
Produced Water	Volume Released (bbls) 979	Volume Recovered (bbls) 500
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A severe thunderstorm causing lightning to strike the battery which caught on fire.

#### Oil Conservation Division

	Page 26:0f 13
Incident ID	NAPP2321553613
District RP	
Facility ID	
Application ID	

Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?					
release as defined by	The volume that was released. The released caused the fire.					
19.15.29.7(A) NMAC?						
🗹 Yes 🗌 No						
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?						
Yes, by Socorro Hendry, to Mike Bratcher on Aug. 1, 2023 by phone and email.						

### **Initial Response**

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

 $\checkmark$  The source of the release has been stopped.

 $\checkmark$  The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

 $\checkmark$  All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: <u>Socorro Hendry</u>	Title: Regulatory Analyst
Signature:	Date: <u>08/03/2023</u>
email: <u>socorro.hendry@octane-energy.com</u>	Telephone: <u>432-685-7736</u>
OCD Only	
Received by: _Shelly Wells	Date: <u>8/18/2023</u>

Page 2

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

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

District III

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

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

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

CONDITIONS

Operator:	OGRID:	
GRAND BANKS ENERGY CO	155471	
10 Desta Drive	Action Number:	
Midland, TX 79705	253886	
	Action Type:	
	[C-141] Release Corrective Action (C-141)	

#### CONDITIONS

Created By Condition scwells None

CONDITIONS

Action 253886

Condition Date

8/18/2023

.

Received by OCD: 9/15/2024 7:26:34 PM Form C-141 State of New Mexico

Oil Conservation Division

	<b>Page 28 of 13</b>
Incident ID	nAPP2321553613
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

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

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

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

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

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

Received by OCD: 9/15/2024 7:26:34 PM Form C-141 State of New Mexico			Page 29 of 137	
			Incident ID	nAPP2321553613
Page 4	Oil Conservation Divis		District RP	
			Facility ID	
			Application ID	
regulations all operators are requ public health or the environment failed to adequately investigate a		notifications and perform co ne OCD does not relieve the threat to groundwater, surfa	prrective actions for rele e operator of liability sho ce water, human health liance with any other feo nd Banks Energy Com	ases which may endanger ould their operations have or the environment. In deral, state, or local laws
OCD Only				
Received by:		Date:		

Received by OCD: 9/15/2024 7:26:34 PM State of New Mexico

<u>Remediation Plan Checklist</u>: Each of the following items must be included in the plan.

Incident ID	nAPP2321553613
District RP	
Facility ID	
Application ID	

## **Remediation Plan**

X Detailed description of proposed remediation technique X Scaled sitemap with GPS coordinates showing delineation points  $\mathbf{X}$  Estimated volume of material to be remediated X Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC X Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: Cindy Crain Title: Agent for Grand Banks Energy Company Date: <u>9/15/24</u> Signature: email: cindy.crain@gmail.com Telephone: (575) 441-7244 OCD Only Date: Received by: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Signature: Date:

## Grand Banks Energy Company - Anderson Ranch Unit #017H Battery (Incident #nAPP2321553613) - Workplan Denied March 6, 2024

Crain Environmental/OCTANE/Anderson Ranch #017H Search for all messages with label Crain Environmental/OCTANE/Anderson Ranch #017H Remove label Crain Environmental/OCTANE/Anderson Ranch #017H from this conversation

## С

Cindy Crain <cindy.crain@gmail.com>

Wed, Apr 17, 2:52 PM

to Nelson,

Nelson,

On March 6, 2024, Grand Banks received a notice that the Remediation Workplan for the above referenced Battery (and Incident) had been denied, and that either a revised Workplan or a Closure Report be submitted to the OCD by June 4, 2024.

I have a couple of questions that I would like to discuss with you regarding comments associated with the denial. Do you have a few minutes in the next few days for a phone call? I can be available anytime tomorrow or either on Wednesday or Thursday of next week.

Please let me know what works best for you.

Thank you, Cindy Crain

Crain Environmental 2925 East 17th Street Odessa, TX 79761 (575) 441-7244 С

### Cindy Crain <cindy.crain@gmail.com>

Wed, Apr 24, 8:31 PM

to Nelson,, bcc: Chris

Hi Nelson,

Thank you for your phone call to discuss the Anderson Ranch Unit #17H Battery (Incident #nAPP2321553613) Remediation Workplan. During that call, you stated that the Workplan would be approved for the use of Microblaze if I provided depth to groundwater verification, and a description of the area to the north of the tank battery that is referred to as a "playa lake" in an email.

As I stated in the call, there is a USGS water well (325650103435601) located 1,033 feet southeast of the ARU#17H well that recorded a depth of groundwater of 213.20' below ground surface (bgs) on February 16, 2006. Attached please find a figure showing the ARU#17H and USGS well locations, and a copy of the USGS well information.

The "playa lake" area is shown on USGS maps to be located immediately north of the ARU #17 Tank Battery. On our call, we also discussed the fact that the Tank Battery was constructed at a higher elevation than the "playa lake" and that a berm was constructed on the north side of the battery. The release in question occurred on 8/1/23, and the first site inspection was conducted on 8/21/23. On that date there was no water observed in the "playa lake", and groundwater has not been observed in that area to date. Attached please find photographs of the "playa lake" area from 8/21/23 to 10/25/23.

Please let me know if you have any questions, or if the Remediation Workplan dated 11/15/23 is approved for the use of Microblaze as proposed. Grand Banks is prepared to begin remediation within 2 weeks of approval of the Workplan and will make every effort to complete remediation and submit a Closure Report to the OCD within 90 days of approval.

Thank you, Cindy Crain

3 Attachments • Scanned by Gmail

 $\stackrel{\circ}{=}$ 

Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>

Fri, May 10, 11:10 AM

to me

Good morning Cindy,

Thank you for the information. My apology for the late response. I commend you for trying to save your client \$150 for the remediation plan re-submittal, but that's the only way we can approve what you submitted via email.

I can take a look at your revised remediation plan (including the new data provided) if you wish to submit to me via email (preliminary). Eventually, you will need to re-submit through the Permitting portal. I apologize again if I misspoke the last time we communicated.

If you have any questions or concerns, please contact me at your convenience.

Regards,

**Nelson Velez** • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> http://www.emnrd.state.nm.us/OCD/

From: Cindy Crain <<u>cindy.crain@gmail.com</u>>
Sent: Wednesday, April 24, 2024 7:31 PM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Subject: [EXTERNAL] Re: Grand Banks Energy Company - Anderson Ranch Unit #017H Battery (Incident
#nAPP2321553613) - Workplan Denied March 6, 2024

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

С

### Cindy Crain <cindy.crain@gmail.com>

Wed, Jun 5, 11:24 PM (3 hours ago)

to Nelson,, bcc: Chris

Nelson,

As you requested, soil samples (T-7 and T-8) were collected on 5/20/24 from two locations between the ARU #17H tank battery (site) and the "playa lake". Attached please find a Figure 2 that shows the sample locations, a Figure 6 that shows the water well locations, a table that provides a summary of the lab results, and a copy of the lab report for the 5/20/24 samples.

Referring to Table 1 and Figure 2, TPH, BTEX, and chloride concentrations were reported below the Closure Criteria in each sample at depths of 1', 2', 3', and 4' below ground surface.

Are you able to tell from this information whether or not a Revised Workplan would be approved for the remediation using MicroBlaze, or do I need to send you a copy of the Revised Workplan prior to submitting it to the fee portal?

Thank you, Cindy Crain

4 Attachments • Scanned by Gmail

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us> Sent: Monday, August 5, 2024 3:22 PM To: Socorro Hendry <<u>socorro.hendry@octane-energy.com</u>> Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 366843

To whom it may concern (c/o Socorro Hendry for CAMBRIAN MANAGEMENT LTD),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2321553613, with the following conditions:

• Remediation plan is approved with the following conditions; 1. Sampling plan is approved for increasing the sampling frequency from 200 to 400 square feet (sq. ft.) per five (5)-point composite sample (5-pcs). Sidewalls must be sampled using 200 sq. ft. per 5-pcs. 2. Ex-situ treated soils must be confirmed using 5-pcs per 100 cubic yards. Lab results must conform to the reclamation standards if used within the top four (4) feet below grade. 3. Variance requesting foregoing the setback toward the adjacent playa lake is approved. 4. Grand Bank (GBE) Energy has 180-days (February 3, 2025) to submit to OCD its appropriate or final remediation closure report. GBE may seek an extension of time to submit its appropriate or final remediation closure report for good cause as determined by the division.

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you, Nelson Velez Environmental Specialist - Advanced 505-469-6146 <u>Nelson.Velez@emnrd.nm.gov</u>

#### New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

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From: <u>OCDOnline@state.nm.us</u><mailto:<u>OCDOnline@state.nm.us</u>> <<u>OCDOnline@state.nm.us</u><mailto:

OCDOnline@state.nm.us>>

Sent: Friday, August 9, 2024 2:38 PM

To: Socorro Hendry <<u>socorro.hendry@octane-energy.com</u><mailto:<u>socorro.hendry@octane-energy.com</u>>> Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 366843

To whom it may concern (c/o Socorro Hendry for CAMBRIAN MANAGEMENT LTD),

The OCD has rejected the submitted Application for administrative approval of a release notification and corrective action (C-141), for incident ID (n#) nAPP2321553613, for the following reasons:

\* Remediation plan is denied 1. Incorrect operator/ OGRID used during the submittal. Original used was [155471] Grand Banks Energy Co. 2. Grand Bank (GBE) Energy has 60-days (October 8, 2024) to submit to OCD its appropriate or final remediation closure report.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 366843. Please review and make the required correction(s) prior to resubmitting. If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you, Nelson Velez Environmental Specialist - Advanced 505-469-6146 <u>Nelson.Velez@emnrd.nm.gov</u><mailto:<u>Nelson.Velez@emnrd.nm.gov</u>>

New Mexico Energy, Minerals and Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 87505

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Appendix B: USGS Well Information

USGS Home Contact USGS Search USGS



**National Water Information System: Web Interface** 

**USGS** Water Resources

 Data Category:
 Geographic Area:

 Groundwater
 ✓

✓ GO

#### Click to hideNews Bulletins

- Explore the NEW USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News 🔝

Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

#### Search Results -- 1 sites found

Agency code = usgs

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 325650103435601 16S.32E.02.41341

Lea County, New Mexico Latitude 32°56'50", Longitude 103°43'56" NAD27 Land-surface elevation 4,277 feet above NAVD88 The depth of the well is 328 feet below land surface. This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer. This well is completed in the Ogallala Formation (1210GLL) local aquifer. **Output formats** 

	output formato
Table of data	
Tab-separated data	
Graph of data	
Reselect period	

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 measur
1961-03-15		D	62610		4068.31	NGVD29	1	Z		
1961-03-15		D	62611		4070.01	NAVD88	1	Z		
1961-03-15		D	72019	206.99			1	Z		
1976-05-06		D	62610		4065.40	NGVD29	1	Z		
1976-05-06		D	62611		4067.10	NAVD88	1	Z		
1976-05-06		D	72019	209.90			1	Z		
1981-03-27		D	62610		4063.96	NGVD29	1	Z		
1981-03-27		D	62611		4065.66	NAVD88	1	Z		
1981-03-27		D	72019	211.34			1	Z		
1986-01-10		D	62610		4064.02	NGVD29	1	Z		
1986-01-10		D	62611		4065.72	NAVD88	1	Z		
1986-01-10		D	72019	211.28			1	Z		
1990-11-30		D	62610		4062.76	NGVD29	1	Z		
1990-11-30		D	62611		4064.46	NAVD88	1	Z		
1990-11-30		D	72019	212.54			1	Z		
2001-02-16		D	62610		4061.18	NGVD29	1	S		

#### Released to Imaging: 10/4/2024 3:24:18 PM

#### Received by OCD: 9/15/2024 7:26:34 PM

2001-02-16         D         62611         4062.88         NAVD88         1         S           2001-02-16         D         72019         214.12         1         S           2006-02-16         19:18 UTC         m         62610         4062.10         NGVD29         1         S         USGS           2006-02-16         19:18 UTC         m         62611         4063.80         NAVD88         1         S         USGS	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 measur
2006-02-16         19:18         UTC         m         62610         4062.10         NGVD29         1         S         USGS           2006-02-16         19:18         UTC         m         62611         4063.80         NAVD88         1         S         USGS	2001-02-16		D	62611		4062.88	NAVD88	1	S		
2006-02-16 19:18 UTC m 62611 4063.80 NAVD88 1 S USGS	2001-02-16		D	72019	214.12			1	S		
	2006-02-16	19:18 UTC	m	62610		4062.10	NGVD29	1	S	USGS	
	2006-02-16	19:18 UTC	m	62611		4063.80	NAVD88	1	S	USGS	
2006-02-16 19:18 UTC m 72019 213.20 1 S USGS	2006-02-16	19:18 UTC	m	72019	213.20			1	S	USGS	

#### 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.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	А	Approved for publication Processing and review completed.

Questions or Comments 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: <u>USGS Water Data Support Team</u> Page Last Modified: 2024-01-08 14:42:31 EST 0.29 0.25 nadww02 USA.gov

.



Appendix C: Photographic Documentation

#### Anderson Ranch Unit #017H



View to NE of N berm and "playa" (8/21/23).

View to W showing "playa" to E and N (8/21/23).



View to W of N berm and "playa" (8/21/23).



View to N of tanks and "playa" (9/19/23).



View to N of trash (liner) and "playa" (9/25/23).

View to N of pad and "playa" (9/25/23).



View to N of pad and "playa" (10/25/23).

.



**Appendix D: Laboratory Analytical Reports** 

Received by OCD: 9/15/2024 7:26:34 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# **PREPARED FOR**

Attn: Cindy Crain Crain Environmental 2925 E. 17th St. Odessa, Texas 79761 Generated 1/16/2024 9:55:38 AM

**JOB DESCRIPTION** 

ARU #17H Pit Lea Co., NM

# **JOB NUMBER**

880-37870-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701







# **Eurofins Midland**

# Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

# Authorization

AMER

Generated 1/16/2024 9:55:38 AM

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

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	Definitions/Glossary		
Client: Crain En Project/Site: AR		Job ID: 880-37870-1 SDG: Lea Co., NM	
Qualifiers			
GC VOA			
Qualifier	Qualifier Description		
S1-	Surrogate recovery exceeds control limits, low biased.		
U	Indicates the analyte was analyzed for but not detected.		4
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.		
a	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		
	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 LOD	Estimated Detection Limit (Dioxin) Limit of Detection (DoD/DOE)		
LOQ	Limit of Detection (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		

Presumptive

Quality Control

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

PRES

QC

RER

RPD TEF

TEQ

TNTC

RL

## **Case Narrative**

Job ID: 880-37870-1

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Job ID: 880-37870-1

#### Job Narrative 880-37870-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The samples were received on 1/11/2024 2:29 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 time was 0.5°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: NW (880-37870-1), NE (880-37870-2), SW (880-37870-3), SE (880-37870-4) and C (880-37870-5).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: SE (880-37870-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: NW (880-37870-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-70655 and analytical batch 880-70619 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-70655/2-A). Evidence of matrix interferences is not obvious.

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

#### HPLC/IC

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

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Job ID: 880-37870-1 SDG: Lea Co., NM

#### Client Sample ID: NW Date Collected: 01/10/24 11:10

Client: Crain Environmental

Project/Site: ARU #17H Pit

Date Received: 01/10/24 11:10 Date Received: 01/11/24 14:29

Sample Depth: 0-6"

Lab Sample ID: 880-37870-1 Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/15/24 12:53	01/16/24 01:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/15/24 12:53	01/16/24 01:40	
thylbenzene	<0.00200	U	0.00200		mg/Kg		01/15/24 12:53	01/16/24 01:40	
n-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/15/24 12:53	01/16/24 01:40	
p-Xylene	<0.00200	U	0.00200		mg/Kg		01/15/24 12:53	01/16/24 01:40	
(ylenes, Total	<0.00401	U	0.00401		mg/Kg		01/15/24 12:53	01/16/24 01:40	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	82		70 - 130				01/15/24 12:53	01/16/24 01:40	
1,4-Difluorobenzene (Surr)	66	S1-	70 - 130				01/15/24 12:53	01/16/24 01:40	
Method: TAL SOP Total BTEX - 1	Total BTEX Cal	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/16/24 01:40	
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<50.4	U	50.4		mg/Kg			01/12/24 04:41	
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)						
Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics GRO)-C6-C10	<50.4	U	50.4		mg/Kg		01/11/24 15:24	01/12/24 04:41	
Diesel Range Organics (Over	<50.4	U	50.4		mg/Kg		01/11/24 15:24	01/12/24 04:41	
C10-C28)	-50.4		50.4		m all a		01/11/24 15:24	01/10/04 04:41	
Oll Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		01/11/24 15:24	01/12/24 04:41	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane	113		70 - 130				01/11/24 15:24	01/12/24 04:41	
p-Terphenyl	119		70 - 130				01/11/24 15:24	01/12/24 04:41	
Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solub	e						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	110		4.95		mg/Kg			01/16/24 03:25	
lient Sample ID: NE							Lab Sam	ple ID: 880-3	7870-2
ate Collected: 01/10/24 11:15								Matri	ix: Soli
ate Received: 01/11/24 14:29									
ample Depth: 0-6"									
Method: SW846 8021B - Volatile	Organic Comp	ounds (GC	)						
Analyte		Qualifier	RL		Unit	D		Analyzed	Dil Fa

Method: SW846 8021B - Volati	ile Organic Comp	ounds (GC)	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 02:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 02:01	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 02:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/15/24 12:53	01/16/24 02:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 02:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/15/24 12:53	01/16/24 02:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				01/15/24 12:53	01/16/24 02:01	1

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- "80 70

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#### **Client Sample Results**

Job ID: 880-3787	<b>'</b> 0-1
SDG: Lea Co.,	NM

# **Client Sample ID: NE**

Date Collected: 01/10/24 11:15 Date Received: 01/11/24 14:29

Client: Crain Environmental Project/Site: ARU #17H Pit

#### Sample Depth: 0-6"

			(00)	( <b>a</b> ) ( <b>b</b> )
Method: SW846 8021B	- Volatile C	Organic Compounds	(GC)	(Continued)

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	72		70 - 130				01/15/24 12:53	01/16/24 02:01	1
Method: TAL SOP Total BTEX	( - Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/16/24 02:01	1
Method: SW846 8015 NM - Di	esel Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5		50.5		mg/Kg			01/12/24 05:03	1

Analyte	Result	Quanner		Unit	 riepaieu	Analyzeu	Dirrac	
Gasoline Range Organics	<50.5	U	50.5	mg/Kg	 01/11/24 15:24	01/12/24 05:03	1	
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.5	U	50.5	mg/Kg	01/11/24 15:24	01/12/24 05:03	1	
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg	01/11/24 15:24	01/12/24 05:03	1	
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
1-Chlorooctane	114		70 - 130		01/11/24 15:24	01/12/24 05:03	1	
o-Terphenyl	120		70 - 130		01/11/24 15:24	01/12/24 05:03	1	

Method: EPA 300.0 - Anions, Ion C	hromatograp	hy - Soluble							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.9		5.04		mg/Kg			01/16/24 03:45	1

#### **Client Sample ID: SW**

Date Collected: 01/10/24 11:20 Date Received: 01/11/24 14:29 Sample Depth: 0-6"

#### Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Benzene <0.00198 U 0.00198 mg/Kg 01/15/24 12:53 01/16/24 02:21 Toluene <0.00198 U 0.00198 01/15/24 12:53 01/16/24 02:21 mg/Kg 1 Ethylbenzene <0.00198 U 0.00198 mg/Kg 01/15/24 12:53 01/16/24 02:21 0.00396 01/15/24 12:53 01/16/24 02:21 m-Xylene & p-Xylene <0.00396 U mg/Kg 1 o-Xylene <0.00198 U 0.00198 mg/Kg 01/15/24 12:53 01/16/24 02:21 1 Xylenes, Total <0.00396 U 0.00396 mg/Kg 01/15/24 12:53 01/16/24 02:21 1 %Recovery Qualifier Limits Dil Fac Surrogate Prepared Analyzed 103 70 - 130 01/15/24 12:53 01/16/24 02:21 4-Bromofluorobenzene (Surr) 1 1,4-Difluorobenzene (Surr) 71 70 - 130 01/15/24 12:53 01/16/24 02:21 1 Method: TAL SOP Total BTEX - Total BTEX Calculation Analyte Result Qualifier RL MDL Unit D Dil Fac Prepared Analyzed Total BTEX <0.00396 U 0.00396 01/16/24 02:21 mg/Kg 1 Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

method. Swoto ou is itim - Diesei it	ange organics (Dito) (O	•)					
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8 U	49.8	mg/Kg			01/12/24 05:25	1

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Lab Sample ID: 880-37870-3

Matrix: Solid

Lab Sample ID: 880-37870-2 Matrix: Solid

## **Client Sample Results**

Client: Crain Environmental
Project/Site: ARU #17H Pit

### **Client Sample ID: SW**

Date Collected: 01/10/24 11:20

Date Received: 01/11/24 14:29 

Sampl	le Dep	oth: 0	)-6"

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		01/11/24 15:24	01/12/24 05:25	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		01/11/24 15:24	01/12/24 05:25	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		01/11/24 15:24	01/12/24 05:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130				01/11/24 15:24	01/12/24 05:25	1
o-Terphenyl	130		70 - 130				01/11/24 15:24	01/12/24 05:25	1

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

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.7	4.99	mg/Kg			01/16/24 03:52	1

#### **Client Sample ID: SE**

#### Date Collected: 01/10/24 11:25 Date Received: 01/11/24 14:29

### Sample Depth: 0-6"

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 03:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 03:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 03:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/15/24 12:53	01/16/24 03:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/15/24 12:53	01/16/24 03:44	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/15/24 12:53	01/16/24 03:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		70 - 130				01/15/24 12:53	01/16/24 03:44	1
1,4-Difluorobenzene (Surr)	64	S1-	70 - 130				01/15/24 12:53	01/16/24 03:44	1
Method: TAL SOP Total BTEX	- Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/16/24 03:44	1
- Method: SW846 8015 NM - Die	esel Range Organ	ics (DRO) (	GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			01/12/24 05:48	1

#### Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.1	U	50.1		mg/Kg		01/11/24 15:24	01/12/24 05:48	1
(GRO)-C6-C10									
Diesel Range Organics (Over	<50.1	U	50.1		mg/Kg		01/11/24 15:24	01/12/24 05:48	1
C10-C28)									
Oll Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		01/11/24 15:24	01/12/24 05:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130				01/11/24 15:24	01/12/24 05:48	1
o-Terphenyl	126		70 - 130				01/11/24 15:24	01/12/24 05:48	1

#### **Eurofins Midland**

Job ID: 880-37870-1 SDG: Lea Co., NM

# Lab Sample ID: 880-37870-3

Lab Sample ID: 880-37870-4

Matrix: Solid

Matrix: Solid

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		Client	Sample R	esuits	,				07070 4
lient: Crain Environmental roject/Site: ARU #17H Pit								Job ID: 880-3 SDG: Lea (	
Client Sample ID: SE							Lab Sam	ple ID: 880-3	7870-4
Date Collected: 01/10/24 11:25								-	ix: Solid
Date Received: 01/11/24 14:29								-	
Sample Depth: 0-6"									
Method: EPA 300.0 - Anions, Ior	1 Chromatogra	ohy - Soluble							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			01/16/24 03:59	1
Client Sample ID: C							Lab Sam	ple ID: 880-3	7870-5
Date Collected: 01/10/24 11:30								-	ix: Solid
Date Received: 01/11/24 14:29									A. •
Sample Depth: 0-6"									
-									
Method: SW846 8021B - Volatile			ы	MDI	1114		Destroyed	A b	
Analyte Benzene	Result <0.00198	Qualifier	RL 0.00198			<u>D</u>	Prepared 01/15/24 12:53	Analyzed 01/16/24 04:05	Dil Fac
Toluene	<0.00198		0.00198		mg/Kg mg/Kg		01/15/24 12:53	01/16/24 04:05	1
Ethylbenzene	<0.00198		0.00198		mg/Kg		01/15/24 12:53	01/16/24 04:05	1
m-Xylene & p-Xylene	<0.00198		0.00198		mg/Kg		01/15/24 12:53	01/16/24 04:05	
o-Xylene	<0.00397		0.00397		mg/Kg		01/15/24 12:53	01/16/24 04:05	، م
Xylenes, Total	<0.00198		0.00198		mg/Kg		01/15/24 12:53	01/16/24 04:05	1
	-0.0000.	0	0.00007		mynxy		01/10/24 12.00	01/10/24 01.00	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130				01/15/24 12:53	01/16/24 04:05	1
1,4-Difluorobenzene (Surr)	80		70 - 130				01/15/24 12:53	01/16/24 04:05	1
		-t-tt-m							
Method: TAL SOP Total BTEX - Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX			0.00397		mg/Kg		Fiepaieu	01/16/24 04:05	
	-0.00001	0	0.00007		mynty			01/10/24 04.00	
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (G	C)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/12/24 06:10	1
-									
Method: SW846 8015B NM - Die Analyte		Qualifier	GC) RL	мы	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics					mg/Kg		01/11/24 15:24	01/12/24 06:10	DIIFac
(GRO)-C6-C10	-00.0	0	00.0		IIIy/ixy		01/11/24 10.24	01/12/24 00.10	
Diesel Range Organics (Over	<50.0	U	50.0		mg/Kg		01/11/24 15:24	01/12/24 06:10	
C10-C28)									
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/11/24 15:24	01/12/24 06:10	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane		Quanner	70 - 130				01/11/24 15:24	01/12/24 06:10	
o-Terphenyl	118		70 - 130				01/11/24 15:24	01/12/24 06:10	
							•	····	
-									
_ Method: EPA 300.0 - Anions, Ior	1 Chromatograp	hy - Soluble							
Method: EPA 300.0 - Anions, Ior Analyte		ohy - Soluble Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa

Eurofins Midland

Client: Crain Environmental Project/Site: ARU #17H Pit

Job ID: 880-37870-1 SDG: Lea Co., NM

Prep Type: Total/NA

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

Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		Ę
Lab Sample ID 880-37870-1	Client Sample ID	(70-130) 82	(70-130) 66 S1-	·	
880-37870-2	NE	97	72		6
880-37870-3	SW	103	71		
880-37870-4	SE	75	64 S1-		
880-37870-5	С	82	80		
LCS 880-70858/1-A	Lab Control Sample	109	104		8
LCSD 880-70858/2-A	Lab Control Sample Dup	119	108		
MB 880-70840/5-A	Method Blank	75	88		C
MB 880-70858/5-A	Method Blank	71	90		
Surrogate Legend					

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Γ				Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		
880-37870-1	NW	113	119		
880-37870-2	NE	114	120		
880-37870-3	SW	121	130		
880-37870-4	SE	119	126		
880-37870-5	С	111	118		
LCS 880-70655/2-A	Lab Control Sample	130	141 S1+		
LCSD 880-70655/3-A	Lab Control Sample Dup	99	113		
MB 880-70655/1-A	Method Blank	133 S1+	155 S1+		

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

3

Prep Type: Total/NA

# **QC Sample Results**

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

 Lab Sample ID: MB 880-70840/5-A											Client Sa	mple ID: N	lethoo	l Blank
Matrix: Solid												· Prep Ty		
Analysis Batch: 70828														: 70840
		мв	мв											
Analyte	Res	sult	Qualifier	RL	-	MDL	Unit		D	Р	repared	Analyze	d	Dil Fac
Benzene	<0.002	200	U	0.00200	)		mg/Kg		_	01/1	5/24 08:59	01/15/24 1	1:08	1
Toluene	<0.002	200	U	0.00200	)		mg/Kg			01/1	5/24 08:59	01/15/24 1 <sup>.</sup>		1
Ethylbenzene	<0.002	200	U	0.00200	)		mg/Kg			01/1	5/24 08:59	01/15/24 1 <sup>-</sup>	1:08	1
m-Xylene & p-Xylene	<0.004	100	U	0.00400	)		mg/Kg			01/1	5/24 08:59	01/15/24 1	1:08	1
o-Xylene	<0.002	200	U	0.00200	)		mg/Kg			01/1	5/24 08:59	01/15/24 1 <sup>.</sup>	1:08	1
Xylenes, Total	<0.004	100	U	0.00400	)		mg/Kg			01/1	5/24 08:59	01/15/24 1 <sup>.</sup>	1:08	1
							0 0							
	I	MB	МВ											
Surrogate	%Recove	<u> </u>	Qualifier	Limits	_						repared	Analyze		Dil Fac
4-Bromofluorobenzene (Surr)		75		70 - 130							5/24 08:59	01/15/24 1		1
1,4-Difluorobenzene (Surr)		88		70 - 130						01/1	5/24 08:59	01/15/24 1	1:08	1
 Lab Sample ID: MB 880-70858/5-A											Client Se	mple ID: N	lathor	Blank
Matrix: Solid											Chefit 3d	Prep Ty		
														: 70858
Analysis Batch: 70828	,	мв	MB									Prepi	Satch	. 70050
Analyte			Qualifier	RI		мы	Unit		D	Б	repared	Analyze	ч	Dil Fac
Benzene	< 0.002		U	0.00200			mg/Kg		_		5/24 12:53	01/15/24 22		1
Toluene	< 0.002			0.00200			mg/Kg				5/24 12:53	01/15/24 22		1
Ethylbenzene	<0.002			0.00200			mg/Kg				5/24 12:53	01/15/24 22		1
m-Xylene & p-Xylene	< 0.004			0.00400			mg/Kg				5/24 12:53	01/15/24 22		
o-Xylene	<0.004			0.00200			mg/Kg				5/24 12:53	01/15/24 22		1
Xylenes, Total	< 0.004			0.00400			mg/Kg				5/24 12:53	01/15/24 22		1
Aylenes, rotar	×0.004	+00	0	0.00400	)		iiig/itg			01/1	5/24 12.55	01/10/24 22	2.00	
	I	MB	МВ											
Surrogate	%Recove	ery	Qualifier	Limits	_					P	repared	Analyze	d	Dil Fac
4-Bromofluorobenzene (Surr)		71		70 - 130						01/1	5/24 12:53	01/15/24 2	2:55	1
1,4-Difluorobenzene (Surr)		90		70 - 130						01/1	5/24 12:53	01/15/24 2	2:55	1
									c	liont	Sampla	ID: Lab Co	atrol	Samplo
Matrix: Solid									Ŭ	nem	Jampie	Prep Ty		
Analysis Batch: 70828														: 70858
Analysis Batch. 10020				Spike	LCS	LCS						%Rec	Jaton	. 70050
Analyte				Added	Result			Unit		D	%Rec	Limits		
Benzene				0.100	0.1096	Qua				<u> </u>		70 - 130		
Toluene				0.100	0.09809			mg/Kg mg/Kg			110 98	70 - 130 70 - 130		
Ethylbenzene				0.100	0.1043						98 104	70 - 130 70 - 130		
m-Xylene & p-Xylene				0.100	0.1043			mg/Kg mg/Kg			104	70 - 130		
				0.200	0.2197						105	70 - 130		
o-Xylene				0.100	0.1054			mg/Kg			105	70 - 130		
	LCS L													
	Recovery C	Quali	fier	Limits										
4-Bromofluorobenzene (Surr)	109			70 - 130										
1,4-Difluorobenzene (Surr)	104			70 - 130										
-	^							0	ont	S		ah Control	Sam-	
Lab Sample ID: LCSD 880-70858/2-/ Matrix: Solid	<b>`</b>								ent	Jail	ipie ID: Li	ab Control Prep Ty		
Analysis Batch: 70828				Spike	LCSD	100	п					%Rec	JaiCI	: 70858 RPD
Analyte				Added	Result			Unit		D	%Rec	%Rec Limits	RPD	Limit
Analyte				Added	0.1162	Qua	mer				/0Rec	ZIMITS		

Job ID: 880-37870-1 SDG: Lea Co., NM

5 7

35

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6

0.100

**Released to Imaging: 10/4/2024 3:24:18 PM** 

Benzene

0.1163

mg/Kg

116

70 - 130

1/16/2024

# **QC Sample Results**

Client: Crain Environmental Project/Site: ARU #17H Pit Job ID: 880-37870-1 SDG: Lea Co., NM

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

Lab Sample ID: LCSD 880-708	58/2-A								Cli	ent	Sam	ple ID: L	ab Contro		
Matrix: Solid														ype: To	
Analysis Batch: 70828													Prep	Batch:	
				Spike		LCSD	LCS	D					%Rec		RPD
Analyte				Added		Result	Qua	lifier	Unit		<u>D</u>	%Rec	Limits	RPD	Limi
Toluene				0.100		0.09918			mg/Kg			99	70 - 130	1	3
Ethylbenzene				0.100		0.1036			mg/Kg			104	70 - 130	1	3
m-Xylene & p-Xylene				0.200		0.2444			mg/Kg			122	70 - 130	11	3
o-Xylene				0.100		0.1171			mg/Kg			117	70 - 130	11	3
	LCSD L	LCSL	)												
Surrogate	%Recovery (	Quali	ifier	Limits											
4-Bromofluorobenzene (Surr)	119			70 - 130											
1,4-Difluorobenzene (Surr)	108			70 - 130											
lethod: 8015B NM - Diese	I Range Org	jan	ics (DR	O) (GC)	)										
Lab Sample ID: MB 880-70655												Client S:	ample ID: I	Method	Blan
Matrix: Solid														ype: To	
Analysis Batch: 70619														Batch:	
Analysis Datch. 70015		мв	мв										пер	Daten.	1005
Analyte			Qualifier		RL		мпі	Unit		D	Pr	repared	Analyz	ha	Dil Fa
Gasoline Range Organics			U		50.0			mg/Kg		_		1/24 13:50	01/11/24 2		Dirit
(GRO)-C6-C10	-		-								•				
Diesel Range Organics (Over	<5	0.0	U		50.0			mg/Kg			01/1	1/24 13:50	01/11/24 2	20:57	
C10-C28)															
Oll Range Organics (Over C28-C36)	<5	0.0	U		50.0			mg/Kg			01/11	1/24 13:50	01/11/24 2	20:57	
		ΜВ	МВ												
Surrogate	%Recov	ery	Qualifier	Lim	its						Pi	repared	Analyz	ed	Dil Fa
1-Chlorooctane		133		70 -	130							1/24 13:50	01/11/24 2		
o-Terphenyl	1	155	S1+	70 -	130						01/1	1/24 13:50	01/11/24 2	20:57	
Lab Sample ID: LCS 880-7065										~	liont	Sampla	ID: Lab Co	ntrol C	omol
Matrix: Solid	5/2-A									C	nem	Sample		ype: To	
Analysis Batch: 70619				Spike		1.00	LCS						%Rec	Batch:	1005
Analyto				Spike Added					Unit		D	%Rec	Limits		
Analyte Gasoline Range Organics				1000		Result 815.7	Qua		mg/Kg		<u> </u>	82	70 - 130		
(GRO)-C6-C10				1000		010.7			mg/ixg			02	10 - 100		
Diesel Range Organics (Over				1000		986.4			mg/Kg			99	70 - 130		
C10-C28)															
	LCS L	LCS													
Surrogate	%Recovery	Qual	ifier	Limits											
1-Chlorooctane	130			70 - 130											
o-Terphenyl	141 S	S1+		70 - 130											
Lab Sample ID: LCSD 880-706	55/3-4								<b>C</b> 11	ont	Sam		ab Contro	I Same	lo D
Matrix: Solid	55/3 <b>-</b> A									ent	Sain	pie iD: L		ype: To	
Analysis Poteby 70640														Potobi	

							гіері	iype. io	
Analysis Batch: 70619							Prep	Batch:	70655
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	891.3		mg/Kg		89	70 - 130	9	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	968.6		mg/Kg		97	70 - 130	2	20
C10-C28)									

Client: Crain Environmental

Project/Site: ARU #17H Pit

#### Job ID: 880-37870-1 SDG: Lea Co., NM

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

Lab Sample ID: LCSD 880-7065 Matrix: Solid	5/3-A								CI	ient S	Sam	ple ID:	Lab Contro Prep	ol Samp Type: To	
Analysis Batch: 70619													Prep	Batch:	70655
	LCSD I	LCSD													
Surrogate	%Recovery (	Qualifi	er	Limits											
1-Chlorooctane	99			70 - 130	-										
o-Terphenyl	113			70 - 130											
lethod: 300.0 - Anions, Ior	h Chromato	gra	ohy												
Lab Sample ID: MB 880-70721/	1-A											Client S	Sample ID:	Method	Blan
Matrix: Solid													Prep	Type: S	olubl
Analysis Batch: 70853															
	I	MB N	1B												
Analyte	Res	sult C	Qualifier		RL		MDL	Unit		D	Pr	repared	Analy	zed	Dil Fa
Chloride	<5	.00 U	J		5.00			mg/Kg					01/16/24	02:23	
Lab Sample ID: LCS 880-70721	/ <b>2-A</b>									Cli	ent	Sample	e ID: Lab C	ontrol S	ampl
Matrix: Solid													Prep	Type: S	olubl
Analysis Batch: 70853															
				Spike		LCS	LCS						%Rec		
Analyte				Added		Result	Qual	ifier	Unit		D	%Rec	Limits		
Chloride				250		226.3			mg/Kg			91	90 - 110		
Lab Sample ID: LCSD 880-7072	1/3-A								CI	ient S	am	ple ID:	Lab Contro	ol Samp	le Du
Matrix: Solid													Prep	Type: S	olubl
Analysis Batch: 70853															
				Spike		LCSD	LCS	D					%Rec		RP
Analyte				Added		Result	Qual	ifier	Unit		D	%Rec	Limits	RPD	Lim
Chloride				250		225.9			mg/Kg			90	90 - 110	0	2

## **QC Association Summary**

Client: Crain Environmental Project/Site: ARU #17H Pit

5

Job ID: 880-37870-1 SDG: Lea Co., NM

#### **GC VOA**

#### Analysis Batch: 70828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-37870-1	NW	Total/NA	Solid	8021B	70858
880-37870-2	NE	Total/NA	Solid	8021B	70858
880-37870-3	SW	Total/NA	Solid	8021B	70858
880-37870-4	SE	Total/NA	Solid	8021B	70858
880-37870-5	С	Total/NA	Solid	8021B	70858
MB 880-70840/5-A	Method Blank	Total/NA	Solid	8021B	70840
MB 880-70858/5-A	Method Blank	Total/NA	Solid	8021B	70858
LCS 880-70858/1-A	Lab Control Sample	Total/NA	Solid	8021B	70858
LCSD 880-70858/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	70858

### Prep Batch: 70840

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
MB 880-70840/5-A	Method Blank	Total/NA	Solid	5035	

#### Prep Batch: 70858

IVID 000-7 0030/3-A		TOtal/INA	Solid	002 I D	70000	
LCS 880-70858/1-A	Lab Control Sample	Total/NA	Solid	8021B	70858	8
LCSD 880-70858/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	70858	
Prep Batch: 70840						9
Lab Sample ID MB 880-70840/5-A	Client Sample ID Method Blank	Prep Type Total/NA	Matrix Solid	Method	Prep Batch	10
Prep Batch: 70858						11
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	12
880-37870-1	NW	Total/NA	Solid	5035		
880-37870-2	NE	Total/NA	Solid	5035		4.0
880-37870-3	SW	Total/NA	Solid	5035		13
880-37870-4	SE	Total/NA	Solid	5035		
880-37870-5	С	Total/NA	Solid	5035		14
MB 880-70858/5-A	Method Blank	Total/NA	Solid	5035		
LCS 880-70858/1-A	Lab Control Sample	Total/NA	Solid	5035		
LCSD 880-70858/2-A	Lab Control Sample Dup	Total/NA	Solid	5035		

#### Analysis Batch: 70984

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-37870-1	NW	Total/NA	Solid	Total BTEX	
880-37870-2	NE	Total/NA	Solid	Total BTEX	
880-37870-3	SW	Total/NA	Solid	Total BTEX	
880-37870-4	SE	Total/NA	Solid	Total BTEX	
880-37870-5	С	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

#### Analysis Batch: 70619

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-37870-1	NW	Total/NA	Solid	8015B NM	70655
880-37870-2	NE	Total/NA	Solid	8015B NM	70655
880-37870-3	SW	Total/NA	Solid	8015B NM	70655
880-37870-4	SE	Total/NA	Solid	8015B NM	70655
880-37870-5	С	Total/NA	Solid	8015B NM	70655
MB 880-70655/1-A	Method Blank	Total/NA	Solid	8015B NM	70655
LCS 880-70655/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	70655
LCSD 880-70655/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	70655

#### Prep Batch: 70655

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-37870-1	NW	Total/NA	Solid	8015NM Prep	
880-37870-2	NE	Total/NA	Solid	8015NM Prep	
880-37870-3	SW	Total/NA	Solid	8015NM Prep	

Eurofins Midland

## **QC** Association Summary

Client: Crain Environmental Project/Site: ARU #17H Pit

#### GC Semi VOA (Continued)

#### Prep Batch: 70655 (Continued)

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
880-37870-4	SE	Total/NA	Solid	8015NM Prep		
880-37870-5	С	Total/NA	Solid	8015NM Prep		
MB 880-70655/1-A	Method Blank	Total/NA	Solid	8015NM Prep		
LCS 880-70655/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep		
LCSD 880-70655/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep		
Analysis Batch: 70746						
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	

Lab Sample ID	Client Sample ID	Ргер Туре
880-37870-1	NW	Total/NA
880-37870-2	NE	Total/NA
880-37870-3	SW	Total/NA
880-37870-4	SE	Total/NA
880-37870-5	С	Total/NA

#### HPLC/IC

#### Leach Batch: 70721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-37870-1	NW	Soluble	Solid	DI Leach	/
880-37870-2	NE	Soluble	Solid	DI Leach	
880-37870-3	SW	Soluble	Solid	DI Leach	
880-37870-4	SE	Soluble	Solid	DI Leach	
880-37870-5	С	Soluble	Solid	DI Leach	
MB 880-70721/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-70721/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-70721/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

#### Analysis Batch: 70853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-37870-1	NW	Soluble	Solid	300.0	70721
880-37870-2	NE	Soluble	Solid	300.0	70721
880-37870-3	SW	Soluble	Solid	300.0	70721
880-37870-4	SE	Soluble	Solid	300.0	70721
880-37870-5	С	Soluble	Solid	300.0	70721
MB 880-70721/1-A	Method Blank	Soluble	Solid	300.0	70721
LCS 880-70721/2-A	Lab Control Sample	Soluble	Solid	300.0	70721
LCSD 880-70721/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	70721

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Job ID: 880-37870-1 SDG: Lea Co., NM

8015 NM

8015 NM

8015 NM

8015 NM

8015 NM

Solid

Solid

Solid

Solid

Solid

Initial

Amount

4.99 g

5 mL

9.93 g

1 uL

5.05 g

Final

Amount

5 mL

5 mL

10 mL

1 uL

50 mL

Batch

70858

70828

70984

70746

70655

70619

70721

70853

Number

Dil

1

1

1

1

1

Factor

Run

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Soluble

Soluble

#### **Client Sample ID: NW** Date Collected: 01/10/24 11:10 Date Received: 01/11/24 14:29

Batch

Туре

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Leach

Prep

Batch

Method

5035

8021B

Total BTEX

8015NM Prep

8015B NM

DI Leach

300.0

8015 NM

Job ID: 880-37870-1

#### Lab Sample ID: 880-37870-1 Matrix: Solid

Analyst

MNR

MNR

SM

SM

ткс

SM

СН

СН

Lab Sample ID: 880-37870-3

Lab Sample ID: 880-37870-4

Prepared

or Analyzed

01/15/24 12:53

01/16/24 01:40

01/16/24 01:40

01/12/24 04:41

01/11/24 15:24

01/12/24 04:41

01/12/24 08:15

01/16/24 03:25

5

9

### Lab Sample ID: 880-37870-2 Matrix: Solid

Date Collected: 01/10/24 11:15 Date Received: 01/11/24 14:29

**Client Sample ID: NE** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	70858	01/15/24 12:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	70828	01/16/24 02:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70984	01/16/24 02:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			70746	01/12/24 05:03	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	70655	01/11/24 15:24	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70619	01/12/24 05:03	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	70721	01/12/24 08:15	СН	EET MID
Soluble	Analysis	300.0		1			70853	01/16/24 03:45	СН	EET MID

## **Client Sample ID: SW**

#### Date Collected: 01/10/24 11:20 Date Received: 01/11/24 14:29

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	70858	01/15/24 12:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	70828	01/16/24 02:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70984	01/16/24 02:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			70746	01/12/24 05:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	70655	01/11/24 15:24	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70619	01/12/24 05:25	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	70721	01/12/24 08:15	СН	EET MID
Soluble	Analysis	300.0		1			70853	01/16/24 03:52	СН	EET MID

#### **Client Sample ID: SE** Date Collected: 01/10/24 11:25 Date Received: 01/11/24 14:29

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	70858	01/15/24 12:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	70828	01/16/24 03:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70984	01/16/24 03:44	SM	EET MID

**Eurofins Midland** 

Matrix: Solid

SDG: Lea Co., NM

Lab

EET MID

Matrix: Solid

# Project/Site: ARU #17H Pit

#### **Client Sample ID: SE** Date Collected: 01/10/24 11:25 D

)ate	<b>Received:</b>	01/11/24 14:29

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			70746	01/12/24 05:48	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	70655	01/11/24 15:24	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70619	01/12/24 05:48	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	70721	01/12/24 08:15	СН	EET MID
Soluble	Analysis	300.0		1			70853	01/16/24 03:59	СН	EET MID

#### **Client Sample ID: C** Date Collected: 01/10/24 11:30 Date Received: 01/11/24 14:29

# Lab Sample ID: 880-37870-5 Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	70858	01/15/24 12:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	70828	01/16/24 04:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70984	01/16/24 04:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			70746	01/12/24 06:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	70655	01/11/24 15:24	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70619	01/12/24 06:10	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	70721	01/12/24 08:15	СН	EET MID
Soluble	Analysis	300.0		1			70853	01/16/24 04:06	СН	EET MID

#### Laboratory References:

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

Job ID: 880-37870-1 SDG: Lea Co., NM

# Lab Sample ID: 880-37870-4

Matrix: Solid

9

5

Client: Crain Environmental Project/Site: ARU #17H Pit

Job ID: 880-37870-1 SDG: Lea Co., NM

#### Laboratory: Eurofins Midland

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

Authority	Progra	m	Identification Number	Expiration Date
- Texas	NELAP		T104704400-23-26	06-30-24
The following analytes	are included in this report, but	the laboratory is not cortif	fied by the governing authority. This list	t may include analytes
for which the agency d	oes not offer certification.	-	, , , , , ,	t may monduce analytes
for which the agency d Analysis Method		Matrix	Analyte	
for which the agency d	oes not offer certification.	-	, , , , , ,	

Eurofins Midland

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### **Method Summary**

Client: Crain Environmental Project/Site: ARU #17H Pit

Job ID: 880-37870-1 SDG: Lea Co., NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
3015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

Eurofins Midland

Client: Crain Environmental Project/Site: ARU #17H Pit Job ID: 880-37870-1 SDG: Lea Co., NM

ab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
80-37870-1	NW	Solid	01/10/24 11:10	01/11/24 14:29	0-6"
80-37870-2	NE	Solid	01/10/24 11:15	01/11/24 14:29	0-6"
80-37870-3	SW	Solid	01/10/24 11:20	01/11/24 14:29	0-6"
80-37870-4	SE	Solid	01/10/24 11:25	01/11/24 14:29	0-6"
80-37870-5	С	Solid	01/10/24 11:30	01/11/24 14:29	0-6"

Seurofins   Environment Testing Xenco	Houston, Midland, TX EL Paso, TX	TX (281) 244 (432) 704-5 ( (915) 585-:	of Cus 0-4200, Dallas, 440 San Anton 3443 Lubbock, 7550, Carlsbad,	TX (214) 902-0 io, TX (210) 509 TX (806) 794-1	9-3334 296			880-3		ain of Custody	
Project Manager Cindy Crain	Bill to: (if different)		Chris (	C. I.I.					www.xenc		
Company Name Crain Environmental										rder Comment	
Address. 2925 C. 17# St	Company Name Address.	31	Octane c 10 W. W.	regy 11 St	200		Program: State of Pro		st 🗌 prp[ NM	Brownfields	RRC Superfund
City, State ZIP. Odessa, TR 7976)	City, State ZIP		jalland.		<u>. 500</u> 79701						] TRRP   Level IV
100000	Email. Cindy. Crai				1101		Deliverable			ADaPT	Other
Project Name: ARU # 17H Pit	Turn Around				ANALYSIS		<del>.</del>				
Project Number -	the second s	es.					<u> </u>	<u> </u>	<u> </u>	1	eservative Codes
Project Location. Lea Co. NM Due D		de								None N	2
Sampler's Name Cindy Crain TAT sta	arts the day received by									Cool Co HCL.HC	
PO # the lak	o, if received by 4:30pm									H <sub>2</sub> S0 <sub>4</sub> H	
SAMPLE RECEIPT TempBlank. Yes No Wet	Ice Yes No						1			H₃PO₄.	-
Samples Received Intact: No Thermometer ID	FILB	5M								NaHSO	
Cooler Custody Seals: Yes No M/A Correction Factor	+-70 -		N N							1 1	3 NaSO 3
Sample Custody Seals: Yes No N/A Temperature Readin		801.	8							1 1	ate+NaOH Zn
Total Containers. Corrected Temperat	ture Orz		10%								Ascorbic Acid SAPC
Sample Identification Matrix Date Tim Sampled Samp	l Denth I		BTEX Chlaride:							Sa	imple Comments
NW 5 1/10/24 111											
NE		T (C)	$\Leftrightarrow$		+						
	20 0-6"	$H \bigotimes$	$\Rightarrow$		┼──┼──						
5Ē //~		ΗŎ	$\Leftrightarrow$		┥──┤──						
		I. K>	$\bigotimes$		┼──┼──						
V //3	30 0-6" V V	$\sim$	$\square$		<u> </u>						
				<u> </u>							
					<u> </u>						
					<u> </u>						
			├		₋						
Total200.7 / 6010200.8 / 6020:8RCRACircle Method(s) and Metal(s) to be analyzedTC	13PPM Texas 11 AI	Sb As B	a Be B Cd	Ca Cr Co	Cu Fe P	b Mg M	In Mo N	lı K Se	Ag SiO <sub>2</sub>	Na Sr TI Sn l	J V Zn
	LP/SPLP6010 8RCRA	SD AS	ва ве Cd (	Lr Co Cu I	'b Mn Mo	Ni Se J	Ag TI U		Hg 1631/	245 1 / 7470 /	7471
Notice: Signature of this document and relinquishment of samples constitutes a valid purch of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume ar of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge description of the same service of the same se											
			·				viously negot				
Relinquished by (Signature) Received by: (Signature)		Date/	Time	Relinqui	shed by (S	ignature)		Receiv	ved by (Sig	gnature)	Date/Time
3 Juny min		<u>,                                    </u>		۲							
5			121	4							
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Revised Date: 08/25/2020 Rev 2020.2

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Job Number: 880-37870-1 SDG Number: Lea Co., NM

List Source: Eurofins Midland

### Login Sample Receipt Checklist

Client: Crain Environmental

#### Login Number: 37870 List Number: 1 Creator: Rodriguez, Leticia

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

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

14

Received by OCD: 9/15/2024 7:26:34 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# **PREPARED FOR**

Attn: Cindy Crain Crain Environmental 2925 E. 17th St. Odessa, Texas 79761 Generated 5/24/2024 8:08:44 PM

JOB DESCRIPTION

ARU #17H Lea Co., NM

# **JOB NUMBER**

880-43707-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701





# **Eurofins Midland**

# Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

# Authorization

AMER

Generated 5/24/2024 8:08:44 PM

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

Eurofins Midland is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

5/24/2024

Laboratory Job ID: 880-43707-1 SDG: Lea Co., NM

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2

Colony Forming Unit

**Dilution Factor** 

Contains No Free Liquid

Detection Limit (DoD/DOE)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Method Detection Limit Minimum Level (Dioxin)

Most Probable Number Method Quantitation Limit

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Limit of Quantitation (DoD/DOE)

Duplicate Error Ratio (normalized absolute difference)

Decision Level Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

Not Detected at the reporting limit (or MDL or EDL if shown)

Minimum Detectable Activity (Radiochemistry)

Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

#### Cli Pr

CFU

CNF

DER Dil Fac

DL

DLC

EDL

LOD

LOQ

MCL

MDA

MDC

MDL

MQL NC

ND

NEG

POS

PQL

QC

RL

RER

RPD

TEF

TEQ

TNTC

PRES

ML MPN

DL, RA, RE, IN

eceived by OCD	P: 9/15/2024 7:26:34 PM Page 68 of 1	137
	Definitions/Glossary	1
Client: Crain Er Project/Site: AF		2
Qualifiers		3
GC VOA Qualifier	Qualifier Description	4
S1+ U	Surrogate recovery exceeds control limits, high biased. Indicates the analyte was analyzed for but not detected.	5
GC Semi VOA Qualifier	Qualifier Description	6
F1 U	MS and/or MSD recovery exceeds control limits. Indicates the analyte was analyzed for but not detected.	
HPLC/IC Qualifier	Qualifier Description	8
Glossary	Indicates the analyte was analyzed for but not detected.	9
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤ %R	Listed under the "D" column to designate that the result is reported on a dry weight basis Percent Recovery	
CFL	Contains Free Liquid	

### **Case Narrative**

Client: Crain Environmental Project: ARU #17H

#### Job ID: 880-43707-1

#### **Eurofins Midland**

#### Job Narrative 880-43707-1

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Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The samples were received on 5/21/2024 10:32 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.1°C.

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: TH-7 (1) (880-43707-1), TH-7 (2) (880-43707-2), TH-7 (3') (880-43707-3), TH-7 (4') (880-43707-4), TH-8 (1') (880-43707-5), TH-8 (2') (880-43707-6), TH-8 (3') (880-43707-7) and TH-8 (4') (880-43707-8).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: TH-7 (3') (880-43707-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-81147 recovered above the upper control limit for o-Xylene. An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported.

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

#### Diesel Range Organics

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-81231 and analytical batch 880-81242 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

#### HPLC/IC

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

RL

0.00202

0.00202

0.00202

0.00404

0.00202

0.00404

Limits

70 - 130

70 - 130

RL

MDL

MDL Unit

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

D

Prepared

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

Prepared

05/21/24 14:42

05/21/24 14:42

Prepared

Dil Fac

1

1

1

1

1

Dil Fac

Dil Fac

Job ID: 880-43707-1 SDG: Lea Co., NM

# Client Sample ID: TH-7 (1')

Date Collected: 05/20/24 12:15

Client: Crain Environmental

Project/Site: ARU #17H

Sample Depth: 1'

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Analyte

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Analyzed

05/22/24 02:18

05/22/24 02:18

05/22/24 02:18

05/22/24 02:18

05/22/24 02:18

05/22/24 02:18

Analyzed

05/22/24 02:18

05/22/24 02:18

Analyzed

5

			=		-		· · · · · · · · · · · · · · · · · · ·	
<0.00404	U	0.00404		mg/Kg			05/22/24 02:18	1
Range Organ	ics (DRO) (	GC)						
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<49.9	U	49.9		mg/Kg			05/23/24 14:26	1
el Range Orga	anics (DRO)	(GC)						
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<49.9	U	49.9		mg/Kg		05/22/24 19:24	05/23/24 14:26	1
<49.9	U	49.9		mg/Kg		05/22/24 19:24	05/23/24 14:26	1
<49.9	U	49.9		mg/Kg		05/22/24 19:24	05/23/24 14:26	1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
124		70 - 130				05/22/24 19:24	05/23/24 14:26	1
126		70 - 130				05/22/24 19:24	05/23/24 14:26	1
Chromatograp	ohy - Solubl	e						
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<5.03	U	5.03		mg/Kg			05/22/24 15:48	1
						Lab Sam	ple ID: 880-4	3707-2
							Matri	ix: Solid
	Range Organ Result <49.9 el Range Orga Result <49.9 <49.9 <49.9 <49.9 <49.9 %Recovery 124 126 Chromatograp Result	Result     Qualifier       <49.9	Range Organics (DRO) (GC)           Result         Qualifier         RL           <49.9	Range Organics (DRO) (GC)           Result         Qualifier         RL         MDL           <49.9	Range Organics (DRO) (GC)         MDL         Unit           <49.9	Range Organics (DRO) (GC)         Result       Qualifier       RL       MDL       Unit       D         <49.9	Range Organics (DRO) (GC)ResultQualifierRLMDLUnitDPrepared<49.9	Range Organics (DRO) (GC)       MDL       Unit       D       Prepared       Analyzed         <49.9

Method: SW846 8021B - Volati	le Organic Comp	ounds (GC	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	< 0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 03:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 03:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 03:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/21/24 14:42	05/22/24 03:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 03:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/21/24 14:42	05/22/24 03:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130				05/21/24 14:42	05/22/24 03:52	1

**Eurofins Midland** 

Result Qualifier

Qualifier

<0.00202 U

<0.00202 U

<0.00202 U

<0.00404 U

<0.00202 U

<0.00404 U

122

93

Result Qualifier

%Recovery

Date Received: 05/21/24 10:32

Method: SW846 8021B - Volatile Organic Compounds (GC)

Method: TAL SOP Total BTEX - Total BTEX Calculation

Dil Fac

Dil Fac

Dil Fac

#### **Client Sample Results**

Limits

70 - 130

RL

RL

49.9

RL

49.9

49.9

49.9

0.00400

MDL Unit

MDL Unit

MDL I

mg/Kg

Job ID: 880-43707-1
SDG: Lea Co., NM

# Client Sample ID: TH-7 (2')

Date Collected: 05/20/24 12:20 Date Received: 05/21/24 10:32

Client: Crain Environmental Project/Site: ARU #17H

Sample Depth: 2'

1,4-Difluorobenzene (Surr)

Gasoline Range Organics

**Diesel Range Organics (Over** 

Oil Range Organics (Over C28-C36)

Surrogate

Analyte

Analyte

Analyte

C10-C28)

(GRO)-C6-C10

Total TPH

Total BTEX

#### Lab Sample ID: 880-43707-2 Matrix: Solid

Analyzed

05/22/24 03:52

Analyzed

05/22/24 03:52

Analyzed

Lab Sample ID: 880-43707-3

Matrix: Solid

	3

mg/Kg			05/23/24 14:45	1
Unit	D	Prepared	Analyzed	Dil Fac
mg/Kg		05/22/24 19:24	05/23/24 14:45	1
mg/Kg		05/22/24 19:24	05/23/24 14:45	1
mg/Kg		05/22/24 19:24	05/23/24 14:45	1
		Prenared	Analyzod	Dil Fac

Prepared

05/21/24 14:42

Prepared

Prepared

D

D

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil
1-Chlorooctane	124	70 - 130	05/22/24 19:24	05/23/24 14:45	
o-Terphenyl	125	70 - 130	05/22/24 19:24	05/23/24 14:45	

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

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Method: TAL SOP Total BTEX - Total BTEX Calculation

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

%Recovery Qualifier

Result Qualifier

Result Qualifier

**Result Qualifier** 

<49.9 U

<49.9 U

<49.9 U

<49.9 U

93

< 0.00400 Ū

Analyte	Result	Qualifier	RL	MDL	Unit	D	)	Prepared	Analyzed	Dil Fac
Chloride	<4.99	U	4.99		mg/Kg				05/22/24 15:54	1

#### Client Sample ID: TH-7 (3')

Date Collected: 05/20/24 12:25 Date Received: 05/21/24 10:32 Sample Depth: 3'

#### Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Benzene <0.00200 U 0.00200 mg/Kg 05/21/24 14:42 05/22/24 04:12 Toluene <0.00200 U 0.00200 mg/Kg 05/21/24 14:42 05/22/24 04.12 1 Ethylbenzene <0.00200 U 0.00200 05/21/24 14:42 05/22/24 04:12 mg/Kg 05/22/24 04:12 m-Xylene & p-Xylene <0.00399 U 0.00399 05/21/24 14:42 mg/Kg 1 o-Xylene <0.00200 U 0.00200 mg/Kg 05/21/24 14:42 05/22/24 04:12 Xylenes, Total <0.00399 U 0.00399 mg/Kg 05/21/24 14:42 05/22/24 04:12 1 %Recovery Qualifier Limits Surrogate Prepared Analvzed Dil Fac 4-Bromofluorobenzene (Surr) S1+ 70 - 130 131 05/21/24 14:42 05/22/24 04.12 1 1,4-Difluorobenzene (Surr) 88 70 - 130 05/21/24 14:42 05/22/24 04:12 1 Method: TAL SOP Total BTEX - Total BTEX Calculation Analvte Result Qualifier MDL Unit D RL Prepared Analvzed Dil Fac Total BTEX <0.00399 Ū 0.00399 05/22/24 04:12 mg/Kg 1 Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC) Anal

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg	 		05/23/24 15:04	1

**Eurofins Midland** 

Job ID: 880-43707-1 SDG: Lea Co., NM

Matrix: Solid

5

Lab Sample ID: 880-43707-3

Lab Sample ID: 880-43707-4

Matrix: Solid

### Client Sample ID: TH-7 (3')

Date Collected: 05/20/24 12:25 Date Received: 05/21/24 10:32

Client: Crain Environmental

Project/Site: ARU #17H

Sample Depth: 3'

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/22/24 19:24	05/23/24 15:04	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/22/24 19:24	05/23/24 15:04	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/22/24 19:24	05/23/24 15:04	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane			70 - 130				05/22/24 19:24	05/23/24 15:04	
o-Terphenyl	113		70 - 130				05/22/24 19:24	05/23/24 15:04	

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/22/24 16:00	1

#### Client Sample ID: TH-7 (4')

#### Date Collected: 05/20/24 12:30 Date Received: 05/21/24 10:32

Sample Depth: 4'

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/21/24 14:42	05/22/24 04:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/21/24 14:42	05/22/24 04:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/21/24 14:42	05/22/24 04:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/21/24 14:42	05/22/24 04:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/21/24 14:42	05/22/24 04:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/21/24 14:42	05/22/24 04:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130				05/21/24 14:42	05/22/24 04:32	1
1,4-Difluorobenzene (Surr)	93		70 - 130				05/21/24 14:42	05/22/24 04:32	1
Analyte Total BTEX	<0.00398	U	0.00398		Unit mg/Kg	D	Prepared	Analyzed 05/22/24 04:32	1
Total BTEX						<u>-</u>			Dil Fac
Total BTEX Method: SW846 8015 NM - Diese Analyte	el Range Organ	<mark>ics (DRO) (</mark> Qualifier		MDL	mg/Kg	 	Prepared		1
Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ 	ics (DRO) ( Qualifier U	GC) <u>RL</u> 50.0 —	MDL	mg/Kg Unit mg/Kg	D	Prepared	05/22/24 04:32 Analyzed 05/23/24 15:22	1 Dil Fac
Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte	el Range Organ 	ics (DRO) ( Qualifier U mics (DRO) Qualifier	GC) 		mg/Kg Unit mg/Kg Unit			05/22/24 04:32 Analyzed	1 Dil Fac 1 Dil Fac
Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result <50.0 sel Range Orga Result	ics (DRO) ( Qualifier U mics (DRO) Qualifier	GC) 	MDL	mg/Kg Unit mg/Kg	D	Prepared	05/22/24 04:32 Analyzed 05/23/24 15:22 Analyzed	1 Dil Fac 1 Dil Fac
Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	el Range Organ Result <50.0 sel Range Orga Result	ics (DRO) ( Qualifier U mics (DRO) Qualifier U	GC) 	MDL	mg/Kg Unit mg/Kg Unit	D	Prepared	05/22/24 04:32 Analyzed 05/23/24 15:22 Analyzed	Dil Fac
Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <pre></pre> <pre></pre> <pre></pre> <pre>Result</pre> <pre></pre>	ics (DRO) ( Qualifier U mics (DRO) Qualifier U U	GC) <u>RL</u> 50.0 (GC) <u>RL</u> 50.0 50.0	MDL	mg/Kg Unit mg/Kg Unit mg/Kg mg/Kg	D	Prepared Prepared 05/22/24 19:24 05/22/24 19:24	05/22/24 04:32 Analyzed 05/23/24 15:22 Analyzed 05/23/24 15:22 05/23/24 15:22	Dil Fac
Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.0 sel Range Orga Result <50.0	ics (DRO) ( Qualifier U mics (DRO) Qualifier U U	GC) <u>RL</u> 50.0 (GC) <u>RL</u> 50.0	MDL	mg/Kg Unit mg/Kg Unit mg/Kg	D	Prepared Prepared 05/22/24 19:24	05/22/24 04:32 Analyzed 05/23/24 15:22 Analyzed 05/23/24 15:22	Dil Fac
	el Range Organ Result <pre></pre> <pre></pre> <pre></pre> <pre>Result</pre> <pre></pre>	ics (DRO) (1 Qualifier U mics (DRO) Qualifier U U U	GC) <u>RL</u> 50.0 (GC) <u>RL</u> 50.0 50.0	MDL	mg/Kg Unit mg/Kg Unit mg/Kg mg/Kg	D	Prepared Prepared 05/22/24 19:24 05/22/24 19:24	05/22/24 04:32 Analyzed 05/23/24 15:22 Analyzed 05/23/24 15:22 05/23/24 15:22	

05/23/24 15:22

05/22/24 19:24

1 uge / 4 0J 13/

o-Terphenyl

70 - 130

116

1
		Client	Sample R	Results	5				
Client: Crain Environmental								Job ID: 880-	43707-1
Project/Site: ARU #17H								SDG: Lea	Co., NM
Client Sample ID: TH-7 (4')							Lab Sam	ple ID: 880-4	3707-4
Date Collected: 05/20/24 12:30								Matri	ix: Solid
Date Received: 05/21/24 10:32									
Sample Depth: 4'									
Method: EPA 300.0 - Anions, Ion Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzod	Dil Fac
Chloride			4.96	MDL	mg/Kg		Frepareu	Analyzed 05/22/24 16:06	1
					0 0				
Client Sample ID: TH-8 (1')							Lab Sam	ple ID: 880-4	
Date Collected: 05/20/24 12:45								Matri	ix: Solid
Date Received: 05/21/24 10:32									
Sample Depth: 1'									
– Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)							
Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	< 0.00198	U	0.00198		mg/Kg		05/21/24 14:42	05/22/24 04:53	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/21/24 14:42	05/22/24 04:53	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/21/24 14:42	05/22/24 04:53	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		05/21/24 14:42	05/22/24 04:53	
o-Xylene	<0.00198	U	0.00198		mg/Kg		05/21/24 14:42	05/22/24 04:53	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		05/21/24 14:42	05/22/24 04:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)		quaimer	70 - 130				05/21/24 14:42	05/22/24 04:53	1
1,4-Difluorobenzene (Surr)	93		70 - 130				05/21/24 14:42	05/22/24 04:53	1
			101100				00,21,2111.12	00,22,2101.00	
Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			05/22/24 04:53	1
– Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (G	C)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			05/23/24 15:41	1
			<b>~</b> ~						
Method: SW846 8015B NM - Dies				MDI	11		Deserved	A	D!!
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/22/24 19:24	05/23/24 15:41	1
Diesel Range Organics (Over	<50.0	U	50.0		mg/Kg		05/22/24 19:24	05/23/24 15:41	1
C10-C28)									
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/22/24 19:24	05/23/24 15:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane			70 - 130				05/22/24 19:24	05/23/24 15:41	1
							05/22/24 19:24	05/23/24 15:41	1
o-Terphenyl	120		70 - 130				03/22/24 19.24	00/20/24 10:41	
o-Terphenyl							03/22/24 19.24	03/23/24 13.41	
	Chromatograp	o <mark>hy - Soluble</mark> Qualifier		МП	Unit	D	Prepared	Analyzed	Dil Fac

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RL

0.00202

0.00202

0.00202

0.00404

0.00202

0.00404

MDL Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

Prepared

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

05/21/24 14:42

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Job ID: 880-43707-1 SDG: Lea Co., NM

## Client Sample ID: TH-8 (2')

Method: SW846 8021B - Volatile Organic Compounds (GC)

Result Qualifier

<0.00202 U

<0.00202 U

<0.00202 U

<0.00404 U

<0.00202 U

<0.00404 U

Date Collected: 05/20/24 12:50 Date Received: 05/21/24 10:32

Sample Depth: 2'

Analyte

Benzene

Toluene

o-Xylene

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

Lab Sample ID: 880-43707-6 Matrix: Solie

Analyzed

05/22/24 05:13

05/22/24 05:13

05/22/24 05:13

05/22/24 05:13

05/22/24 05:13

05/22/24 05:13

707-6 Solid	
	5
Dil Fac	<u> </u>
1 1	
1	
1	
1 1	8
Dil Fac	9
1 1	
Dil Fac	
1	
Dil Fac	13

Client: Crain Environmental

Project/Site: ARU #17H

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	122		70 - 130				05/21/24 14:42	05/22/24 05:13	
1,4-Difluorobenzene (Surr)	92		70 - 130				05/21/24 14:42	05/22/24 05:13	
Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00404	U	0.00404		mg/Kg			05/22/24 05:13	
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9		mg/Kg			05/23/24 16:00	
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/22/24 19:24	05/23/24 16:00	
Diesel Range Organics (Over	<49.9	U	49.9		mg/Kg		05/22/24 19:24	05/23/24 16:00	
C10-C28)									
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/22/24 19:24	05/23/24 16:00	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane			70 - 130				05/22/24 19:24	05/23/24 16:00	
o-Terphenyl	115		70 - 130				05/22/24 19:24	05/23/24 16:00	
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solub	е						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	140		25.2		mg/Kg			05/22/24 16:19	
Client Sample ID: TH-8 (3')							Lab Sam	ple ID: 880-4	3707-
ate Collected: 05/20/24 12:55								Matri	x: Soli
ate Received: 05/21/24 10:32									
ample Depth: 3'									

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC)	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/21/24 14:42	05/22/24 05:34	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/21/24 14:42	05/22/24 05:34	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/21/24 14:42	05/22/24 05:34	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/21/24 14:42	05/22/24 05:34	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/21/24 14:42	05/22/24 05:34	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/21/24 14:42	05/22/24 05:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130				05/21/24 14:42	05/22/24 05:34	1

**Eurofins Midland** 

Released to Imaging: 10/4/2024 3:24:18 PM

### **Client Sample Results**

Job ID: 880-43707-1 SDG: Lea Co., NM

Matrix: Solid

Lab Sample ID: 880-43707-7

## Client Sample ID: TH-8 (3')

Date Collected: 05/20/24 12:55 Date Received: 05/21/24 10:32

Client: Crain Environmental

Project/Site: ARU #17H

Sample Depth: 3'

## ethod: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130				05/21/24 14:42	05/22/24 05:34	1
Method: TAL SOP Total BTEX - T	Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			05/22/24 05:34	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH Method: SW846 8015B NM - Dies	<49.9		49.9		mg/Kg			05/23/24 16:19	1
Total TPH Method: SW846 8015B NM - Dies					mg/Kg			05/23/24 16:19	1
Method: SW846 8015B NM - Dies Analyte	sel Range Orga Result	nics (DRO) Qualifier	(GC)	MDL	Unit	D	Prepared	Analyzed	1 Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	sel Range Orga	nics (DRO) Qualifier	(GC)	MDL		<u>D</u>	Prepared 05/22/24 19:24		1 1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10	sel Range Orga Result	<b>Qualifier</b>	(GC)	MDL	Unit	<u>D</u>	<u> </u>	Analyzed	1 
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.9	<b>Qualifier</b> U	(GC) <u>RL</u> 49.9 49.9	MDL	Unit mg/Kg mg/Kg	<u>D</u>	05/22/24 19:24 05/22/24 19:24	Analyzed 05/23/24 16:19 05/23/24 16:19	1 1 1 1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.9	<b>Qualifier</b> U	(GC) 	MDL	Unit mg/Kg	<u> </u>	05/22/24 19:24	Analyzed 05/23/24 16:19	1 
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oil Range Organics (Over C28-C36)	sel Range Orga Result <49.9	<b>Qualifier</b> U U U	(GC) <u>RL</u> 49.9 49.9	MDL	Unit mg/Kg mg/Kg	<u>D</u>	05/22/24 19:24 05/22/24 19:24	Analyzed 05/23/24 16:19 05/23/24 16:19	1 
Method: SW846 8015B NM - Dies	sel Range Orga Result <49.9 <49.9 <49.9	<b>Qualifier</b> U U U	(GC) <u>RL</u> 49.9 49.9 49.9	MDL	Unit mg/Kg mg/Kg	<u> </u>	05/22/24 19:24 05/22/24 19:24 05/22/24 19:24	Analyzed 05/23/24 16:19 05/23/24 16:19 05/23/24 16:19	1

## Method: EPA 300.0 - Anions, Ion Chromatography - Soluble Analyte Result Qualifier RL MDL Unit D Prepared Analyzed

Chloride	280	49.9	mg/Kg	05/22/24 16:25 10
Client Sample ID: TH-8 (4')				Lab Sample ID: 880-43707-8

### Date Collected: 05/20/24 13:00 Date Received: 05/21/24 10:32

#### Sample Depth: 4'

Total TPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 05:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 05:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 05:54	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/21/24 14:42	05/22/24 05:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/21/24 14:42	05/22/24 05:54	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/21/24 14:42	05/22/24 05:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130				05/21/24 14:42	05/22/24 05:54	1
1,4-Difluorobenzene (Surr)	92		70 - 130				05/21/24 14:42	05/22/24 05:54	1
Method: TAL SOP Total BTEX	- Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			05/22/24 05:54	1
Method: SW846 8015 NM - Die	esel Range Organ	ics (DRO) (	GC)						
Analyte		Qualifier	, RL	мы	Unit	D	Prepared	Analyzed	Dil Fac

05/22/24 16:57

Dil Fac

Matrix: Solid

50.0

mg/Kg

<50.0 U

1

5

## **Client Sample Results**

Client: Crain Environmental	
Project/Site: ARU #17H	

Job ID: 880-43707-1 SDG: Lea Co., NM

### Client Sample ID: TH-8 (4')

Date Collected: 05/20/24 13:00 Date Received: 05/21/24 10:32

Sample Depth: 4'

#### Lab Sample ID: 880-43707-8 Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0		mg/Kg		05/21/24 16:20	05/22/24 16:57	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<50.0	U F1	50.0		mg/Kg		05/21/24 16:20	05/22/24 16:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/21/24 16:20	05/22/24 16:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane			70 - 130				05/21/24 16:20	05/22/24 16:57	1
o-Terphenyl	122		70 - 130				05/21/24 16:20	05/22/24 16:57	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyto									

Client: Crain Environmental Project/Site: ARU #17H

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

Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		
880-43707-1	TH-7 (1')	122	93		
880-43707-2	TH-7 (2')	122	93		
880-43707-3	TH-7 (3')	131 S1+	88		5
880-43707-4	TH-7 (4')	121	93		
880-43707-5	TH-8 (1')	123	93		2
880-43707-6	TH-8 (2')	122	92		
880-43707-7	TH-8 (3')	119	92		
880-43707-8	TH-8 (4')	123	92		
LCS 880-81211/1-A	Lab Control Sample	118	91		
LCSD 880-81211/2-A	Lab Control Sample Dup	119	99		
MB 880-81124/5-A	Method Blank	116	88		
MB 880-81211/5-A	Method Blank	119	89		
Surrogate Legend					
BFB = 4-Bromofluorobe	nzene (Surr)				
DFBZ = 1,4-Difluoroben	zene (Surr)				

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

Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-43707-1	TH-7 (1')	124	126	
880-43707-2	TH-7 (2')	124	125	
880-43707-3	TH-7 (3')	111	113	
880-43707-4	TH-7 (4')	113	116	
880-43707-5	TH-8 (1')	118	120	
880-43707-6	TH-8 (2')	112	115	
880-43707-7	TH-8 (3')	110	113	
880-43707-8	TH-8 (4')	119	122	
880-43707-8 MS	TH-8 (4')	122	121	
880-43707-8 MSD	TH-8 (4')	122	123	
LCS 880-81231/2-A	Lab Control Sample	99	89	
LCS 880-81364/2-A	Lab Control Sample	100	105	
LCSD 880-81231/3-A	Lab Control Sample Dup	100	97	
LCSD 880-81364/3-A	Lab Control Sample Dup	98	102	
MB 880-81231/1-A	Method Blank	111	119	
MB 880-81364/1-A	Method Blank	118	119	

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Job ID: 880-43707-1 SDG: Lea Co., NM

Prep Type: Total/NA

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Prep Type: Total/NA

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

- Lab Sample ID: MB 880-81124/5	-A								C	Client Sa	mple ID: Meth	od Blank
Matrix: Solid											Prep Type:	
Analysis Batch: 81147											Prep Bate	
····· <b>,</b> ··· · · · · · · · · · ·	МВ	МВ										
Analyte	Result	Qualifier	RL	N	NDL	Unit		D	Pre	epared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200			mg/Kg		_	05/20	/24 15:25	05/21/24 11:38	1
Toluene	<0.00200	U	0.00200			mg/Kg			05/20	/24 15:25	05/21/24 11:38	1
Ethylbenzene	<0.00200	U	0.00200			mg/Kg			05/20	/24 15:25	05/21/24 11:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400			mg/Kg			05/20	/24 15:25	05/21/24 11:38	1
o-Xylene	<0.00200	U	0.00200			mg/Kg			05/20	/24 15:25	05/21/24 11:38	1
Xylenes, Total	<0.00400	U	0.00400			mg/Kg			05/20	/24 15:25	05/21/24 11:38	1
	МВ	МВ										
Surrogate	%Recovery	Qualifier	Limits						Pre	epared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130							)/24 15:25	05/21/24 11:38	1
1,4-Difluorobenzene (Surr)	88		70 - 130						05/20	/24 15:25	05/21/24 11:38	1
 										Oliont De	male ID: Meth	ad Diank
Lab Sample ID: MB 880-81211/5	-A									Shent Sa	mple ID: Meth	
Matrix: Solid											Prep Type:	
Analysis Batch: 81147	МР	мр									Prep Bate	cn: 81211
Analyta		MB Qualifier	ы			Unit			Dr	opored	Applyzod	
Analyte Benzene			<b>RL</b> 0.00200	N	NDL	Unit mg/Kg		<u>D</u>		epared /24 14:42	Analyzed 05/21/24 22:52	Dil Fac
	<0.00200		0.00200							/24 14:42		1
Toluene Ethylbenzene	<0.00200		0.00200			mg/Kg				/24 14:42	05/21/24 22:52 05/21/24 22:52	1
						mg/Kg						
m-Xylene & p-Xylene	<0.00400		0.00400			mg/Kg				/24 14:42	05/21/24 22:52	1
o-Xylene	< 0.00200		0.00200			mg/Kg				/24 14:42	05/21/24 22:52	1
Xylenes, Total	<0.00400	U	0.00400			mg/Kg			05/21	/24 14:42	05/21/24 22:52	1
	МВ	MB										
Surrogate	%Recovery	Qualifier	Limits							epared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130							/24 14:42	05/21/24 22:52	1
1,4-Difluorobenzene (Surr)	89		70 - 130						05/21	/24 14:42	05/21/24 22:52	1
	1-A							С	lient	Sample	ID: Lab Contro	Sample
Matrix: Solid											Prep Type:	
Analysis Batch: 81147											Prep Bate	
			Spike	LCS	LCS						%Rec	
Analyte			Added	Result	Qual	ifier U	Jnit		D	%Rec	Limits	
Benzene			0.100	0.1114			ng/Kg			111	70 - 130	
Toluene			0.100	0.1115			ng/Kg			112	70 - 130	
Ethylbenzene			0.100	0.1061			ng/Kg			106	70 - 130	
m-Xylene & p-Xylene			0.200	0.2234			ng/Kg			112	70 - 130	
o-Xylene			0.100	0.1155			ng/Kg			115	70 - 130	
	LCS LCS											
Surrogate	%Recovery Qua		Limits									
4-Bromofluorobenzene (Surr)	118		70 - 130									
1,4-Difluorobenzene (Surr)	91		70 - 130									
= - 									•			
Lab Sample ID: LCSD 880-81211	1/2 <b>-A</b>						Clie	ent	Sam	pie ID: La	ab Control Sar	
Matrix: Solid											Prep Type:	
Analysis Batch: 81147						_					Prep Bate	
			Spike	LCSD							%Rec	RPD
Analyte			Added	Result	Qual	ifier U	Jnit		D	%Rec	Limits RI	PD Limit

Job ID: 880-43707-1 SDG: Lea Co., NM

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Benzene

0.1179

mg/Kg

118

70 - 130

0.100

35

6

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Client: Crain Environmental Project/Site: ARU #17H

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

Lab Sample ID: LCSD 880-812	11/2-A								Cli	ent	Sam	ple ID: L	ab Control S		
Matrix: Solid													Prep Typ	e: To	tal/NA
Analysis Batch: 81147													Prep B	atch:	81211
				Spike		LCSD	LCS	D					%Rec		RPD
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limit
Toluene				0.100		0.1147			mg/Kg			115	70 - 130	3	35
Ethylbenzene				0.100		0.1125			mg/Kg			113	70 - 130	6	35
m-Xylene & p-Xylene				0.200		0.2328			mg/Kg			116	70 - 130	4	35
o-Xylene				0.100		0.1201			mg/Kg			120	70 - 130	4	35
		~~	_												
	LCSD L														
Surrogate	%Recovery	Qual	ifier	Limits											
4-Bromofluorobenzene (Surr)	119			70_130											
1,4-Difluorobenzene (Surr)	99			70 - 130											
lethod: 8015B NM - Diese	I Range Org	Jan	ics (DR	(GC)											
Lab Sample ID: MB 880-81231	/1 <b>-A</b>											Client Sa	ample ID: Me	thod	Blank
Matrix: Solid													Prep Typ		
Analysis Batch: 81242													Prep B		
,	M	ИВ	МВ												
Analyte	Res	ult	Qualifier		RL		MDL	Unit		D	P	repared	Analyzed		Dil Fac
Gasoline Range Organics	<50	0.0	U	5	50.0			mg/Kg	1	_		1/24 16:20	05/22/24 15:		1
(GRO)-C6-C10								0 (							
Diesel Range Organics (Over	<50	0.0	U	5	0.0			mg/Ko	9		05/2	1/24 16:20	05/22/24 15:	55	1
C10-C28) Oil Range Organics (Over C28-C36)	<5(	0.0		5	0.0			mg/Kg	n a constant		05/2	1/24 16:20	05/22/24 15:	55	1
On Mange Organics (Over 020-000)		5.0	0	0	0.0			ing/itg	9		00/2	1/24 10.20	03/22/24 13.	00	1
	Ι	ИВ	МВ												
Surrogate	%Recove	ery	Qualifier	Limits							P	repared	Analyzed		Dil Fac
1-Chlorooctane	1	111		70 - 13	30						05/2	1/24 16:20	05/22/24 15:	55	1
o-Terphenyl	1	19		70 - 13	80						05/2	1/24 16:20	05/22/24 15:	55	1
Lab Sample ID: LCS 880-8123	1/2 A									~	liont	Sample	ID: Lab Con	trol S	amplo
Matrix: Solid	1/2-4									Ŭ	ment	Sample	Prep Typ		
Analysis Batch: 81242				Calles		1.00	LCS						Prep B %Rec	atch:	01231
Awalada				Spike Added					11		-	0/ <b>D</b>			
Analyte						Result	Qua	litier	Unit			%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10				1000		862.6			mg/Kg			86	70 - 130		
Diesel Range Organics (Over				1000		829.6			mg/Kg			83	70 - 130		
C10-C28)															
	LCS L	.cs													
Surrogate	%Recovery G		ifier	Limits											
1-Chlorooctane	<u></u>			70 - 130											
o-Terphenyl	89			70 - 130											
	03			70 - 750											
Lab Sample ID: LCSD 880-812	31/3-A								Cli	ent	Sam	ple ID: L	ab Control S	ampl	le Dup
Matrix: Solid													Prep Typ		
Analysis Batch: 81242													Prep B		

Analysis Batch: 81242							Prep	Batch:	81231
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	914.3		mg/Kg		91	70 - 130	6	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	916.4		mg/Kg		92	70 - 130	10	20
C10-C28)									

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Client: Crain Environmental Project/Site: ARU #17H

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

Lab Sample ID: LCSD 880-812 Matrix: Solid	231/3-A	<u> </u>							Clie	ent \$	Sam	ple ID: L	ab Control Prep Ty		
Analysis Batch: 81242													Prep I	Batch	81231
	LCSD	LCSI	כ												
Surrogate	%Recovery			Limits											
1-Chlorooctane	100	quui		70 - 130	-										
o-Terphenyl	97			70 - 130											
Lab Sample ID: 880-43707-8 M	IS											Clie	nt Sample	ID: TH	I-8 (4')
Matrix: Solid													Prep Ty	pe: To	otal/NA
Analysis Batch: 81242													Prep	Batch	81231
	Sample	Samp	ole	Spike		MS	MS						%Rec		
Analyte	Result	Quali	fier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U		1000		957.0			mg/Kg		_	96	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1		1000		562.6	F1		mg/Kg			54	70 - 130		
	MS	MS													
Surrogate	%Recovery	Qual	ifier	Limits											
1-Chlorooctane	122			70 - 130	-										
o-Terphenyl	121			70 - 130											
Lab Sample ID: 880-43707-8 M	ISD											Clie	nt Sample	ID: TH	I-8 (4')
Matrix: Solid													Prep Ty	pe: To	otal/NA
Analysis Batch: 81242													Prep l	Batch	81231
	Sample	Samp	ble	Spike		MSD	MSD	)					%Rec		RPD
Analyte	Result	Quali	fier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U		1000		966.5			mg/Kg		_	97	70 - 130	1	20
(GRO)-C6-C10															
Diesel Range Organics (Over	<50.0	U F1		1000		562.5	F1		mg/Kg			54	70 - 130	0	20
C10-C28)															
	MSD	MSD													
Surrogate	%Recovery	Qual	ifier	Limits											
1-Chlorooctane	122			70 - 130	-										
o-Terphenyl	123			70 - 130											
Lab Sample ID: MB 880-81364	l/1-A											Client Sa	mple ID: N	lethoo	l Blank
Matrix: Solid													Prep Ty	/pe: To	otal/NA
Analysis Batch: 81417													Prep l	Batch	81364
		MB	МВ												
Analyte			Qualifier		RL		MDL	Unit		D	Pi	repared	Analyze	d	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<	\$50.0	U		50.0			mg/Kg			05/22	2/24 19:24	05/23/24 0	9:55	1
Diesel Range Organics (Over C10-C28)	<	<50.0	U		50.0			mg/Kg			05/22	2/24 19:24	05/23/24 0	9:55	1
Oil Range Organics (Over C28-C36)	<	<50.0	U		50.0			mg/Kg			05/22	2/24 19:24	05/23/24 0	9:55	1
		ΜВ	МВ												
Surrogate	%Reco	overy	Qualifier	Lim	its						Pi	repared	Analyze	d	Dil Fac
1-Chlorooctane		118		70 -	130					-	05/2	2/24 19:24	05/23/24 0	9:55	1

5

Job ID: 880-43707-1

SDG: Lea Co., NM

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05/22/24 19:24 05/23/24 09:55

o-Terphenyl

70 - 130

119

1

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

Lab Sample ID: LCS 880-8136 Matrix: Solid												•	ID: Lab Co Prep 1	ype: To	
Analysis Batch: 81417														Batch:	
				Spike		LCS	LCS						%Rec	Daton	0100
Analyte				Added		Result		ifier	Unit		D	%Rec	Limits		
Gasoline Range Organics	·			1000		1103			mg/Kg		_	110	70 - 130		
(GRO)-C6-C10															
Diesel Range Organics (Over				1000		978.1			mg/Kg			98	70 - 130		
C10-C28)															
	LCS	LCS													
Surrogate	%Recovery		ifier	Limits											
1-Chlorooctane	100			70 - 130	-										
o-Terphenyl	105			70 - 130											
Lab Sample ID: LCSD 880-81	364/3-A								Cli	ent S	am	ple ID:	Lab Contro	I Sampl	e Du
Matrix: Solid														ype: To	
Analysis Batch: 81417														Batch:	
				Spike		LCSD	LCSI	C					%Rec		RP
Analyte				Added		Result	Qual	ifier	Unit		D	%Rec	Limits	RPD	Limi
Gasoline Range Organics				1000		1057			mg/Kg			106	70 - 130	4	2
(GRO)-C6-C10															
Diesel Range Organics (Over				1000		936.6			mg/Kg			94	70 - 130	4	2
C10-C28)															
	LCSD	LCSI	0												
Surrogate	%Recovery	Qual	ifier	Limits											
1-Chlorooctane	98			70 - 130	-										
o-Terphenyl	102			70 - 130											
lethod: 300.0 - Anions, Io	on Chromat	ogra	aphy												
Lab Cample ID: MD 000 0404	0/4 4														Diam
Lab Sample ID: MB 880-8124	8/1-A											Client S	ample ID:		
Matrix: Solid													Prep	Type: S	olubi
Analysis Batch: 81267															
Awaka	_		MB					1114		_			<b>A</b> h		D
Analyte			Qualifier		RL		MDL			D	Pr	epared	Analyz		Dil Fa
Chloride	•	<5.00	0		5.00			mg/K	y				05/22/24	13.20	
	18/2 <b>-</b> A									Clie	ent	Sample	D: Lab Co	ontrol S	amnle
Lab Sample ID: LCS 880-8124										•		oumpre		Type: S	
Lab Sample ID: LCS 880-8124 Matrix: Solid													Trop	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Matrix: Solid													%Rec		
Matrix: Solid				Spike		LCS	LCS								
Matrix: Solid Analysis Batch: 81267				Spike Added			LCS	ifier	Unit		п	%Rec			
Matrix: Solid Analysis Batch: 81267 <sup>Analyte</sup>				Added		Result		ifier	Unit ma/Ka		D	% <b>Rec</b>	Limits		
Matrix: Solid Analysis Batch: 81267 <sup>Analyte</sup>				-				ifier	Unit mg/Kg		D	<b>%Rec</b> 97			
Matrix: Solid Analysis Batch: 81267 Analyte Chloride	248/3-A			Added		Result		ifier	mg/Kg			97	Limits 90 - 110		e Du
Matrix: Solid Analysis Batch: 81267 Analyte Chloride Lab Sample ID: LCSD 880-81:	248/3-A			Added		Result		ifier	mg/Kg			97	Limits 90 - 110 Lab Contro		
Matrix: Solid Analysis Batch: 81267 Analyte Chloride Lab Sample ID: LCSD 880-812 Matrix: Solid	248/3-A			Added		Result		ifier	mg/Kg			97	Limits 90 - 110 Lab Contro	I Sampl Type: S	
Lab Sample ID: LCS 880-8124 Matrix: Solid Analysis Batch: 81267 Chloride Lab Sample ID: LCSD 880-812 Matrix: Solid Analysis Batch: 81267	248/3-A			Added 250		Result	Qual		mg/Kg			97	Limits 90 - 110 Lab Contro Prep		
Matrix: Solid Analysis Batch: 81267 Analyte Chloride Lab Sample ID: LCSD 880-812 Matrix: Solid	248/3-A			Added		Result 242.0	Qual	D	mg/Kg	ent S		97	Limits 90 - 110 Lab Contro		olubl

Client: Crain Environmental

#### Job ID: 880-43707-1 SDG: Lea Co., NM

Project/Site: ARU #17H Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-81265/1-A Matrix: Solid										Client S	ample ID: Prep	Method Type: S	
Analysis Batch: 81289													
		MB MB											
Analyte		esult Qualifier		RL	MDL	Unit		<u>D</u>	P	repared	Analy		Dil Fac
Chloride	•	<5.00 U		5.00		mg/Kg	I				05/23/24	06:48	1
Lab Sample ID: LCS 880-81265/2-A								Cli	ent	Sample	ID: Lab C	ontrol S	amnle
Matrix: Solid	•									Campie		Type: S	
Analysis Batch: 81289											1100	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	orabio
Analysis Batch. 01200			Spike	LCS	LCS						%Rec		
Analyte			Added	Result	Qua	lifier	Unit		D	%Rec	Limits		
Chloride			250	251.8			mg/Kg		_	101	90 - 110		
Lab Sample ID: LCSD 880-81265/3-							CI	iont S	am		Lab Contro	ol Samol	o Dun
Matrix: Solid	^						0.		am			Type: S	
Analysis Batch: 81289											Tich	Type. O	oluble
Analysis Batch. 01200			Spike	LCSD	LCS	D					%Rec		RPD
Analyte			Added	Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride			250	249.3			mg/Kg		_	100	90 - 110	1	20
Lab Sample ID: 880-43707-8 MS										Cli	ent Samp	e ID: TH	-8 (4')
Matrix: Solid												Type: S	
Analysis Batch: 81289												.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	Sample	Sample	Spike	MS	MS						%Rec		
Analyte		Qualifier	Added	Result	Qua	lifier	Unit		D	%Rec	Limits		
Chloride	40		260	40.	5		mg/Kg		_	101	90 - 110		
Lab Sample ID: 880-43707-8 MSD										Cli	ent Samp		-8 (4')
Matrix: Solid												Type: S	
Analysis Batch: 81289											i iep	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	CIUDIC
Analysis Baton, 01200	Sample	Sample	Spike	MSD	MSD	)					%Rec		RPD
Analyte		Qualifier	Added	Result			Unit		D	%Rec	Limits	RPD	Limit
Chloride	40		260	40.			mg/Kg		_	101	90 - 110	0	20
	40		200	40.			mgning			101	55-110	0	20

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## **QC Association Summary**

Client: Crain Environmental Project/Site: ARU #17H

Job ID: 880-43707-1 SDG: Lea Co., NM

GC VOA

#### Prep Batch: 81124

rep Batch: 81124					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
MB 880-81124/5-A	Method Blank	Total/NA	Solid	5035	
nalysis Batch: 81147	,				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
380-43707-1	TH-7 (1')	Total/NA	Solid	8021B	81211
880-43707-2	TH-7 (2')	Total/NA	Solid	8021B	81211
880-43707-3	TH-7 (3')	Total/NA	Solid	8021B	81211
880-43707-4	TH-7 (4')	Total/NA	Solid	8021B	81211
380-43707-5	TH-8 (1')	Total/NA	Solid	8021B	81211
380-43707-6	TH-8 (2')	Total/NA	Solid	8021B	81211
380-43707-7	TH-8 (3')	Total/NA	Solid	8021B	81211
880-43707-8	TH-8 (4')	Total/NA	Solid	8021B	81211
MB 880-81124/5-A	Method Blank	Total/NA	Solid	8021B	81124
MB 880-81211/5-A	Method Blank	Total/NA	Solid	8021B	81211
_CS 880-81211/1-A	Lab Control Sample	Total/NA	Solid	8021B	81211
LCSD 880-81211/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	81211

#### Prep Batch: 81211

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-43707-1	TH-7 (1')	Total/NA	Solid	5035	
880-43707-2	TH-7 (2')	Total/NA	Solid	5035	
880-43707-3	TH-7 (3')	Total/NA	Solid	5035	
880-43707-4	TH-7 (4')	Total/NA	Solid	5035	
880-43707-5	TH-8 (1')	Total/NA	Solid	5035	
880-43707-6	TH-8 (2')	Total/NA	Solid	5035	
880-43707-7	TH-8 (3')	Total/NA	Solid	5035	
880-43707-8	TH-8 (4')	Total/NA	Solid	5035	
MB 880-81211/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-81211/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-81211/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

#### Analysis Batch: 81288

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-43707-1	TH-7 (1')	Total/NA	Solid	Total BTEX	
880-43707-2	TH-7 (2')	Total/NA	Solid	Total BTEX	
880-43707-3	TH-7 (3')	Total/NA	Solid	Total BTEX	
880-43707-4	TH-7 (4')	Total/NA	Solid	Total BTEX	
880-43707-5	TH-8 (1')	Total/NA	Solid	Total BTEX	
880-43707-6	TH-8 (2')	Total/NA	Solid	Total BTEX	
880-43707-7	TH-8 (3')	Total/NA	Solid	Total BTEX	
880-43707-8	TH-8 (4')	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

#### Prep Batch: 81231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-43707-8	TH-8 (4')	Total/NA	Solid	8015NM Prep	
MB 880-81231/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-81231/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-81231/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-43707-8 MS	TH-8 (4')	Total/NA	Solid	8015NM Prep	

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## **QC Association Summary**

Client: Crain Environmental Project/Site: ARU #17H

#### GC Semi VOA (Continued)

#### Prep Batch: 81231 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-43707-8 MSD	TH-8 (4')	Total/NA	Solid	8015NM Prep	
Analysis Batch: 81242	1				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-43707-8	TH-8 (4')	Total/NA	Solid	8015B NM	81231
MB 880-81231/1-A	Method Blank	Total/NA	Solid	8015B NM	81231
LCS 880-81231/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	81231
LCSD 880-81231/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	81231
880-43707-8 MS	TH-8 (4')	Total/NA	Solid	8015B NM	81231
880-43707-8 MSD	TH-8 (4')	Total/NA	Solid	8015B NM	81231
Prep Batch: 81364					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch

Lab Sample ID	Client Sample ID	Prep Type	Matrix	wiethod	Ргер Бассп
880-43707-1	TH-7 (1')	Total/NA	Solid	8015NM Prep	
880-43707-2	TH-7 (2')	Total/NA	Solid	8015NM Prep	
880-43707-3	TH-7 (3')	Total/NA	Solid	8015NM Prep	
880-43707-4	TH-7 (4')	Total/NA	Solid	8015NM Prep	
880-43707-5	TH-8 (1')	Total/NA	Solid	8015NM Prep	
880-43707-6	TH-8 (2')	Total/NA	Solid	8015NM Prep	
880-43707-7	TH-8 (3')	Total/NA	Solid	8015NM Prep	
MB 880-81364/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-81364/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-81364/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 81417

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-43707-1	TH-7 (1')	Total/NA	Solid	8015B NM	81364
880-43707-2	TH-7 (2')	Total/NA	Solid	8015B NM	81364
880-43707-3	TH-7 (3')	Total/NA	Solid	8015B NM	81364
880-43707-4	TH-7 (4')	Total/NA	Solid	8015B NM	81364
880-43707-5	TH-8 (1')	Total/NA	Solid	8015B NM	81364
880-43707-6	TH-8 (2')	Total/NA	Solid	8015B NM	81364
880-43707-7	TH-8 (3')	Total/NA	Solid	8015B NM	81364
MB 880-81364/1-A	Method Blank	Total/NA	Solid	8015B NM	81364
LCS 880-81364/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	81364
LCSD 880-81364/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	81364

#### Analysis Batch: 81432

Г

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-43707-1	TH-7 (1')	Total/NA	Solid	8015 NM	
880-43707-2	TH-7 (2')	Total/NA	Solid	8015 NM	
880-43707-3	TH-7 (3')	Total/NA	Solid	8015 NM	
880-43707-4	TH-7 (4')	Total/NA	Solid	8015 NM	
880-43707-5	TH-8 (1')	Total/NA	Solid	8015 NM	
880-43707-6	TH-8 (2')	Total/NA	Solid	8015 NM	
880-43707-7	TH-8 (3')	Total/NA	Solid	8015 NM	
880-43707-8	TH-8 (4')	Total/NA	Solid	8015 NM	

#### Job ID: 880-43707-1 SDG: Lea Co., NM

## **QC Association Summary**

Client: Crain Environmental Project/Site: ARU #17H

Job ID: 880-43707-1 SDG: Lea Co., NM

#### HPLC/IC

#### Leach Batch: 81248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-43707-1	TH-7 (1')	Soluble	Solid	DI Leach	
880-43707-2	TH-7 (2')	Soluble	Solid	DI Leach	
880-43707-3	TH-7 (3')	Soluble	Solid	DI Leach	
880-43707-4	TH-7 (4')	Soluble	Solid	DI Leach	
880-43707-5	TH-8 (1')	Soluble	Solid	DI Leach	
880-43707-6	TH-8 (2')	Soluble	Solid	DI Leach	
880-43707-7	TH-8 (3')	Soluble	Solid	DI Leach	
MB 880-81248/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-81248/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-81248/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

#### Leach Batch: 81265

TH-8 (3')	Soluble	Solid	DI Leach	_	
Method Blank	Soluble	Solid	DI Leach		8
Lab Control Sample	Soluble	Solid	DI Leach		
Lab Control Sample Dup	Soluble	Solid	DI Leach		9
				-	
Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
TH-8 (4')	Soluble	Solid	DI Leach		
Method Blank	Soluble	Solid	DI Leach		
Lab Control Sample	Soluble	Solid	DI Leach		
Lab Control Sample Dup	Soluble	Solid	DI Leach		
TH-8 (4')	Soluble	Solid	DI Leach		-
TH-8 (4')	Soluble	Solid	DI Leach		
	Lab Control Sample Lab Control Sample Dup Client Sample ID TH-8 (4') Method Blank Lab Control Sample Lab Control Sample Dup TH-8 (4')	Method Blank       Soluble         Lab Control Sample       Soluble         Lab Control Sample Dup       Soluble         Client Sample ID       Prep Type         TH-8 (4')       Soluble         Method Blank       Soluble         Lab Control Sample Dup       Soluble         Method Blank       Soluble         Lab Control Sample       Soluble         TH-8 (4')       Soluble         TH-8 (4')       Soluble	Method Blank       Soluble       Solid         Lab Control Sample       Soluble       Solid         Lab Control Sample Dup       Soluble       Solid         Client Sample ID       Prep Type       Matrix         TH-8 (4')       Soluble       Solid         Method Blank       Soluble       Solid         Lab Control Sample       Soluble       Solid         Lab Control Sample       Soluble       Solid         TH-8 (4')       Soluble       Solid         Lab Control Sample       Soluble       Solid         TH-8 (4')       Soluble       Solid	Method Blank       Soluble       Solid       DI Leach         Lab Control Sample       Soluble       Soluble       Solid       DI Leach         Lab Control Sample Dup       Soluble       Soluble       Solid       DI Leach         Client Sample ID       Prep Type       Matrix       Method         TH-8 (4')       Soluble       Soluble       Solid       DI Leach         Method Blank       Soluble       Solid       DI Leach         Lab Control Sample       Soluble       Soluble       Solid       DI Leach         Lab Control Sample       Soluble       Soluble       Solid       DI Leach         Lab Control Sample       Soluble       Soluble       Solid       DI Leach         TH-8 (4')       Soluble       Soluble       Solid       DI Leach         TH-8 (4')       Soluble       Soluble       Solid       DI Leach	Method Blank       Soluble       Solid       DI Leach         Lab Control Sample       Soluble       Solid       DI Leach         Lab Control Sample Dup       Soluble       Solid       DI Leach         Client Sample ID       Prep Type       Matrix       Method       Prep Batch         TH-8 (4')       Soluble       Solid       DI Leach       Prep Batch         Method Blank       Soluble       Solid       DI Leach       Prep Batch         Lab Control Sample       Soluble       Solid       DI Leach       Prep Batch         TH-8 (4')       Soluble       Solid       DI Leach       Prep Batch         Lab Control Sample       Soluble       Solid       DI Leach       Prep Batch         TH-8 (4')       Soluble       Solid       DI Leach       Prep Batch         TH-8 (4')       Soluble       Solid       DI Leach       Prep Batch         TH-8 (4')       Soluble       Solid       DI Leach       Prep Batch

#### Analysis Batch: 81267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-43707-1	TH-7 (1')	Soluble	Solid	300.0	81248
880-43707-2	TH-7 (2')	Soluble	Solid	300.0	81248
880-43707-3	TH-7 (3')	Soluble	Solid	300.0	81248
880-43707-4	TH-7 (4')	Soluble	Solid	300.0	81248
880-43707-5	TH-8 (1')	Soluble	Solid	300.0	81248
880-43707-6	TH-8 (2')	Soluble	Solid	300.0	81248
880-43707-7	TH-8 (3')	Soluble	Solid	300.0	81248
MB 880-81248/1-A	Method Blank	Soluble	Solid	300.0	81248
LCS 880-81248/2-A	Lab Control Sample	Soluble	Solid	300.0	81248
LCSD 880-81248/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	81248

#### Analysis Batch: 81289

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-43707-8	TH-8 (4')	Soluble	Solid	300.0	81265
MB 880-81265/1-A	Method Blank	Soluble	Solid	300.0	81265
LCS 880-81265/2-A	Lab Control Sample	Soluble	Solid	300.0	81265
LCSD 880-81265/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	81265
880-43707-8 MS	TH-8 (4')	Soluble	Solid	300.0	81265
880-43707-8 MSD	TH-8 (4')	Soluble	Solid	300.0	81265

Initial

Amount

4.95 g

5 mL

10.03 g

1 uL

4.97 g

50 mL

Final

Amount

5 mL

5 mL

10 mL

1 uL

50 mL

50 mL

Batch

81211

81147

81288

81432

81364

81417

81248

81267

Number

Dil

1

1

1

1

1

Factor

Run

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Soluble

Soluble

#### Client Sample ID: TH-7 (1') Date Collected: 05/20/24 12:15 Date Received: 05/21/24 10:32

Batch

Туре

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Leach

Prep

Batch

Method

5035

8021B

Total BTEX

8015NM Prep

8015B NM

DI Leach

300.0

8015 NM

Job ID: 880-43707-1 SDG: Lea Co., NM

Lab

EET MID

Matrix: Solid

#### Lab Sample ID: 880-43707-1 Matrix: Solid

Analyst

AA

MNR

SM

SM

FL

TKC

SA

SMC

Prepared

or Analyzed

05/21/24 14:42

05/22/24 02:18

05/22/24 02:18

05/23/24 14:26

05/22/24 19:24

05/23/24 14:26

05/22/24 07:56

05/22/24 15:48

d 4

#### Lab Sample ID: 880-43707-2 Matrix: Solid

Lab Sample ID: 880-43707-3

Lab Sample ID: 880-43707-4

trix: Solid

Date Collected: 05/20/24 12:20 Date Received: 05/21/24 10:32

Client Sample ID: TH-7 (2')

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	81211	05/21/24 14:42	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	81147	05/22/24 03:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			81288	05/22/24 03:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			81432	05/23/24 14:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	81364	05/22/24 19:24	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	81417	05/23/24 14:45	TKC	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	81248	05/22/24 07:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	81267	05/22/24 15:54	SMC	EET MID

#### Client Sample ID: TH-7 (3') Date Collected: 05/20/24 12:25 Date Received: 05/21/24 10:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	81211	05/21/24 14:42	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	81147	05/22/24 04:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			81288	05/22/24 04:12	SM	EET MID
Total/NA	Analysis	8015 NM		1			81432	05/23/24 15:04	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	81364	05/22/24 19:24	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	81417	05/23/24 15:04	TKC	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	81248	05/22/24 07:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	81267	05/22/24 16:00	SMC	EET MID

#### Client Sample ID: TH-7 (4') Date Collected: 05/20/24 12:30 Date Received: 05/21/24 10:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	81211	05/21/24 14:42	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	81147	05/22/24 04:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			81288	05/22/24 04:32	SM	EET MID

**Eurofins Midland** 

Matrix: Solid

Released to Imaging: 10/4/2024 3:24:18 PM

#### Client Sample ID: TH-7 (4') Date Collected: 05/20/24 12:30

Date Received: 05/21/24 10:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			81432	05/23/24 15:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	81364	05/22/24 19:24	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	81417	05/23/24 15:22	TKC	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	81248	05/22/24 07:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	81267	05/22/24 16:06	SMC	EET MID

#### Client Sample ID: TH-8 (1') Date Collected: 05/20/24 12:45 Date Received: 05/21/24 10:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	81211	05/21/24 14:42	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	81147	05/22/24 04:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			81288	05/22/24 04:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			81432	05/23/24 15:41	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	81364	05/22/24 19:24	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	81417	05/23/24 15:41	ткс	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	81248	05/22/24 07:56	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	81267	05/22/24 16:13	SMC	EET MID

#### Client Sample ID: TH-8 (2')

Date Collected: 05/20/24 12:50 Date Received: 05/21/24 10:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	81211	05/21/24 14:42	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	81147	05/22/24 05:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			81288	05/22/24 05:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			81432	05/23/24 16:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	81364	05/22/24 19:24	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	81417	05/23/24 16:00	ТКС	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	81248	05/22/24 07:56	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	81267	05/22/24 16:19	SMC	EET MID

#### Client Sample ID: TH-8 (3') Date Collected: 05/20/24 12:55 Date Received: 05/21/24 10:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	81211	05/21/24 14:42	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	81147	05/22/24 05:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			81288	05/22/24 05:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			81432	05/23/24 16:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	81364	05/22/24 19:24	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	81417	05/23/24 16:19	TKC	EET MID

Eurofins Midland

Matrix: Solid

Job ID: 880-43707-1 SDG: Lea Co., NM

#### Lab Sample ID: 880-43707-4 Matrix: Solid

Lab Sample ID: 880-43707-5

## Lab Sample ID: 880-43707-6

Lab Sample ID: 880-43707-7

Matrix: Solid

Matrix: Solid

#### Lab Chronicle

Client: Crain Environmental Project/Site: ARU #17H

#### Client Sample ID: TH-8 (3') Date Collected: 05/20/24 12:55

Date Received: 05/21/24 10:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	81248	05/22/24 07:56	SA	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	81267	05/22/24 16:25	SMC	EET MID

#### Client Sample ID: TH-8 (4') Date Collected: 05/20/24 13:00 Date Received: 05/21/24 10:32

#### Lab Sample ID: 880-43707-8 Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	81211	05/21/24 14:42	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	81147	05/22/24 05:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			81288	05/22/24 05:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			81432	05/22/24 16:57	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	81231	05/21/24 16:20	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	81242	05/22/24 16:57	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	81265	05/22/24 08:55	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	81289	05/23/24 07:07	SMC	EET MID

#### Laboratory References:

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

Job ID: 880-43707-1 SDG: Lea Co., NM

#### Lab Sample ID: 880-43707-7 Matrix: Solid

Accreditation/Certification Summary

Client: Crain Environmental Project/Site: ARU #17H

Laboratory: Eurofins Midland

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

uthority	thority Program		Identification Number	Expiration Date
exas	NELAF	כ	T104704400-23-26	06-30-24
The following analyte	s are included in this report bu	t the laboratory is not certif	fied by the governing authority. This lis	t mav include analvte
• •	does not offer certification.	, ,	, , , , , ,	, ,
• •		Matrix	Analyte	, ,
for which the agency	does not offer certification.	-		

#### Job ID: 880-43707-1 SDG: Lea Co., NM

### **Method Summary**

Client: Crain Environmental Project/Site: ARU #17H

Job ID: 880-43707-1 SDG: Lea Co., NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
Protocol Refe	rences:		
ASTM = A	STM International		
EPA = US	Environmental Protection Agency		
SW846 = "	Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition	n, November 1986 And Its Updates.	
TAL SOP =	TestAmerica Laboratories, Standard Operating Procedure		
Laboratory Re	ferences:		
EET MID =	Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Laboratory References:

Eurofins Midland

Released to Imaging: 10/4/2024 3:24:18 PM

### Sample Summary

Client: Crain Environmental Project/Site: ARU #17H Job ID: 880-43707-1 SDG: Lea Co., NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
880-43707-1	TH-7 (1')	Solid	05/20/24 12:15	05/21/24 10:32	1'	
880-43707-2	TH-7 (2')	Solid	05/20/24 12:20	05/21/24 10:32	2'	
880-43707-3	TH-7 (3')	Solid	05/20/24 12:25	05/21/24 10:32	3'	5
880-43707-4	TH-7 (4')	Solid	05/20/24 12:30	05/21/24 10:32	4'	J
880-43707-5	TH-8 (1')	Solid	05/20/24 12:45	05/21/24 10:32	1'	
880-43707-6	TH-8 (2')	Solid	05/20/24 12:50	05/21/24 10:32	2'	
880-43707-7	TH-8 (3')	Solid	05/20/24 12:55	05/21/24 10:32	3'	
880-43707-8	TH-8 (4')	Solid	05/20/24 13:00	05/21/24 10:32	4'	
						9 10
						12
						13

eurofins Environment Tes	Hous ting Midland EL Pas	ston, TX d, TX (43 so, TX (9	(281) 24 2) 704-5 15) 585-	0-4200, 440, San 3443, Lu	Antonio, T bbock, TX (	<b>dy</b> 214) 902-0300 ( (210) 509-3334 306) 794-1296 (575) 988-3199					3707 Chain of	Custody
Project Manager: Cinchy Crain	Bill to: (if differen	it)	1	hris	s Ga	doly				Work Ore	der Comments	
Company Name: Crain Environmental	Company Name	2	1	ctan	e Ere	94		Program:			Brownfields	RRC Superfund
Address: 2925 C. 17th St.	Address:		31	<u>p Jel.</u>	Wall	Ste. 300		State of Pro		VM		
City, State ZIP: Odessa, TR 7976				alla		7970				_ Level III	ADaPT	TRRP Level IV
Phone: (575) 441-7244	Email: Cindy.	cra	<u>n e</u>	gm	aj). Co	n		Deliverable	s: EU			Other:
Project Name: ARU # 17H	Turn Around	Pres.		П		ANALYS	SIS REQUE	ST T	TT			eservative Codes
Project Number:	Routine Rush	Code	-								None: N	
Sampler's Name: PO #: SAMPLE RECEIPT Samples Received Intact: Cooler Custody Seals: Sample Custody Seals: Yes No N/A Correction Fa Sample Custody Seals: Yes No N/A Temperature Corrected Te	rctor: -1D Reading: 4.2 mperature: 4.1	Parameters	TAN BOISM	BTEX	Chlarides						Zn Aceta	HNO 3: HN I 2 NaOH: Na HP
Sample Identification Matrix Date Sampled	Time Depth Grab/ Comp	# of Cont	4	Ø	0						Sa	mple Comments
TH-7 (1) 5 5/20/24	1215 1' C 1220 2' 1	++	A				_		+			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	V	V	v								
Total 200.7 / 6010 200.8 / 6020: 8R Circle Method(s) and Metal(s) to be analyzed Notice: Signature of this document and relinguishment of samples constitutes a vo of service. Eurofins Xenco will be liable only for the cost of samples and shall not a of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project an	ssume any responsibility for any losses	TRA S	fins Xenco ses Incum	Ba Be o, its affilia red by the	Cd Cr ates and sub-	ontractors. It assigns sta losses are due to circum	Mo Ni Se andard terms instances beyo	Ag TI U and conditions nd the control	+		la Sr Tl Sn L 245.1 / 7470 /	
Relingrojshed by: (Signature) Received by	y: (Signature)	S	Date/	Time	<u>Y</u> 2 <u>/</u> 4	Relinquished by:	(Signatur	e)	Receiv	red by: (Sigr	nature)	Date/Time

Received by OCD: 9/15/2024 7:26:34 PM

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5/24/2024

Revised Date: 08/25/2020 Rev. 2020.2

Job Number: 880-43707-1 SDG Number: Lea Co., NM

List Source: Eurofins Midland

#### Login Sample Receipt Checklist

Client: Crain Environmental

#### Login Number: 43707 List Number: 1 Creator: Rodriguez, Leticia

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

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

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Received by OCD: 9/15/2024 7:26:34 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

## **PREPARED FOR**

Attn: Cindy Crain Crain Environmental 2925 E. 17th St. Odessa, Texas 79761 Generated 10/11/2023 12:48:50 PM

## JOB DESCRIPTION

Anderson Ranch #017H SDG NUMBER Lea Co NM

## **JOB NUMBER**

880-33915-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701





5 6 7

## **Eurofins Midland**

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization

AMER

Generated 10/11/2023 12:48:50 PM

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

Eurofins Midland is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Laboratory Job ID: 880-33915-1 SDG: Lea Co NM

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	Definitions/Glossary		
Client: Crain	Environmental	Job ID: 880-33915-1	
Project/Site: /	Anderson Ranch #017H	SDG: Lea Co NM	
Qualifiers			
GC VOA			
Qualifier	Qualifier Description		
S1-	Surrogate recovery exceeds control limits, low biased.		
S1+	Surrogate recovery exceeds control limits, high biased.		
U	Indicates the analyte was analyzed for but not detected.		
GC Semi VO	Α		
Qualifier	Qualifier Description		
61+	Surrogate recovery exceeds control limits, high biased.		
U	Indicates the analyte was analyzed for but not detected.		
HPLC/IC			
Qualifier	Qualifier Description		
F1	MS and/or MSD recovery exceeds control limits.		
U	Indicates the analyte was analyzed for but not detected.		
Glossary			
Abbreviation	These commonly used abbreviations may or may not be present in this report.		
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis		
%R	Percent Recovery		
CFL	Contains Free Liquid		
CFU	Colony Forming Unit		
CNF	Contains No Free Liquid		
DER	Duplicate Error Ratio (normalized absolute difference)		
Dil Fac	Dilution Factor		

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

.

#### **Case Narrative**

Client: Crain Environmental Project/Site: Anderson Ranch #017H

Job ID: 880-33915-1

#### Laboratory: Eurofins Midland

#### Narrative

Job Narrative 880-33915-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The samples were received on 10/2/2023 4:07 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 time was 5.4°C

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63969 and analytical batch 880-64254 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: TH-1 (0-6") (880-33915-1) and TH-1 (5') (880-33915-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-63937 and analytical batch 880-64070 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-64070/31), (CCV 880-64070/58) and (LCS 880-63937/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: TH-1 (10') (880-33915-3), TH-2 (9') (880-33915-6) and TH-3 (5') (880-33915-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: TH-1 (5') (880-33915-2), TH-2 (0-6") (880-33915-4), TH-2 (5') (880-33915-5), TH-3 (0-6") (880-33915-7), TH-3 (3') (880-33915-8), TH-4 (5') (880-33915-11), TH-5 (0-6") (880-33915-12) and TH-5 (2.5') (880-33915-13). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-64003 and analytical batch 880-64045 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

RL

0.0198

0.0198

0.0198

0.0396

0.0198

0.0396

MDL

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

Prepared

10/09/23 15:31

10/09/23 15:31

10/09/23 15:31

10/09/23 15:31

10/09/23 15:31

10/09/23 15:31

Job ID: 880-33915-1 SDG: Lea Co NM

### Client Sample ID: TH-1 (0-6")

Method: SW846 8021B - Volatile Organic Compounds (GC)

Result Qualifier

<0.0198 U

0.0438

0.0256

0.0649

0.0239

0.0888

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 13:10 Date Received: 10/02/23 16:07 Sample Depth: 0-6"

Analyte

Benzene

Toluene

o-Xylene

Ethylbenzene

**Xylenes**, Total

m-Xylene & p-Xylene

Client: Crain Environmental

Lab Sample ID: 880-33915-1 Matrix: Solid

Analyzed

10/10/23 16:51

10/10/23 16:51

10/10/23 16:51

10/10/23 16:51

10/10/23 16:51

10/10/23 16:51

	5

Dil Fac

10

10

10

10

10

10

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	55	S1-	70 - 130				10/09/23 15:31	10/10/23 16:51	1
1,4-Difluorobenzene (Surr)	111		70 - 130				10/09/23 15:31	10/10/23 16:51	1
Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	0.158		0.0396		mg/Kg			10/10/23 16:51	
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	1420		49.9		mg/Kg			10/07/23 01:58	
Method: SW846 8015B NM - Dies	al Banga Orga								
Analyte		Qualifier	(GC) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics	<49.9	U	49.9		mg/Kg		10/04/23 10:00	10/07/23 01:58	
(GRO)-C6-C10									
Diesel Range Organics (Over	1420		49.9		mg/Kg		10/04/23 10:00	10/07/23 01:58	
C10-C28)									
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/04/23 10:00	10/07/23 01:58	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130				10/04/23 10:00	10/07/23 01:58	1
o-Terphenyl	111		70 - 130				10/04/23 10:00	10/07/23 01:58	i
Method: EPA 300.0 - Anions, Ion	Chromatograp	hv - Solubl	e						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2990	F1	25.0		mg/Kg			10/06/23 08:49	Ę
lient Sample ID: TH-1 (5')							l ah Sam	ple ID: 880-3	3015-2
							Lab Sam	-	
ate Collected: 09/29/23 13:15								Matri	x: Solid
ate Received: 10/02/23 16:07									

Sample Depth: 5'

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0200	U	0.0200		mg/Kg		10/09/23 15:31	10/10/23 17:11	10
Toluene	<0.0200	U	0.0200		mg/Kg		10/09/23 15:31	10/10/23 17:11	10
Ethylbenzene	<0.0200	U	0.0200		mg/Kg		10/09/23 15:31	10/10/23 17:11	10
m-Xylene & p-Xylene	<0.0401	U	0.0401		mg/Kg		10/09/23 15:31	10/10/23 17:11	10
o-Xylene	0.0385		0.0200		mg/Kg		10/09/23 15:31	10/10/23 17:11	10
Xylenes, Total	<0.0401	U	0.0401		mg/Kg		10/09/23 15:31	10/10/23 17:11	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	62	S1-	70 - 130				10/09/23 15:31	10/10/23 17:11	10

**Eurofins Midland** 

10/11/2023

### **Client Sample Results**

Job ID: 880-33915-1 SDG: Lea Co NM

### Client Sample ID: TH-1 (5')

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 13:15

Client: Crain Environmental

## Lab Sample ID: 880-33915-2

Matrix: Solid

5

Date Received: 10/02/23 16:07 Sample Depth: 5'

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	105		70 - 130				10/09/23 15:31	10/10/23 17:11	10
Method: TAL SOP Total BTEX -	Total BTEX Calo	ulation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0401	U	0.0401		mg/Kg			10/10/23 17:11	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	892		49.7		mg/Kg			10/07/23 03:06	1
Method: SW846 8015B NM - Die	sel Range Orga	nics (DRO)	(GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.7	U	49.7		mg/Kg		10/04/23 10:00	10/07/23 03:06	1
(GRO)-C6-C10									
Diesel Range Organics (Over	892		49.7		mg/Kg		10/04/23 10:00	10/07/23 03:06	1
C10-C28)	. 40.7		40.7		117		10/04/00 10 00	10/07/00 00 00	
Oll Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		10/04/23 10:00	10/07/23 03:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane		S1+	70 - 130				10/04/23 10:00	10/07/23 03:06	1
o-Terphenyl	166	S1+	70 - 130				10/04/23 10:00	10/07/23 03:06	1
Method: EPA 300.0 - Anions, Ior	h Chromatograp	hy - Solubl	e						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	2130		25.2		mg/Kg			10/06/23 09:09	5

Date Received: 10/02/23 16:07 Sample Depth: 10'

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/09/23 23:52	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/09/23 23:52	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/09/23 23:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/04/23 16:36	10/09/23 23:52	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/09/23 23:52	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/04/23 16:36	10/09/23 23:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130				10/04/23 16:36	10/09/23 23:52	1
1,4-Difluorobenzene (Surr)	95		70 - 130				10/04/23 16:36	10/09/23 23:52	1
Method: TAL SOP Total BTEX	- Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/09/23 23:52	1
Method: SW846 8015 NM - Die	sel Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4		50.4		mg/Kg			10/06/23 23:41	

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Job ID: 880-33915-1 SDG: Lea Co NM

Lab Sample ID: 880-33915-3

Lab Sample ID: 880-33915-4

Matrix: Solid

## Client Sample ID: TH-1 (10')

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 13:30 Date Received: 10/02/23 16:07

**Client: Crain Environmental** 

Sample Depth: 10'

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		10/04/23 11:48	10/06/23 23:41	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		10/04/23 11:48	10/06/23 23:41	1
Oll Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		10/04/23 11:48	10/06/23 23:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	158	S1+	70 - 130				10/04/23 11:48	10/06/23 23:41	1
o-Terphenyl	144	S1+	70 - 130				10/04/23 11:48	10/06/23 23:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3160		24.8		mg/Kg			10/06/23 09:16	5

#### Client Sample ID: TH-2 (0-6")

Date	Collected:	09/29/23	13:32
Date	<b>Received:</b>	10/02/23	16:07

Sample Depth: 0-6"

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 00:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 00:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 00:13	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/04/23 16:36	10/10/23 00:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 00:13	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/04/23 16:36	10/10/23 00:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130				10/04/23 16:36	10/10/23 00:13	1
								10/10/00 00 10	4
1,4-Difluorobenzene (Surr)	95		70 - 130				10/04/23 16:36	10/10/23 00:13	1
		culation	70 - 130				10/04/23 16:36	10/10/23 00:13	1
Method: TAL SOP Total BTEX	- Total BTEX Cal	culation Qualifier	70 - 130 RL	MDL	Unit	D	10/04/23 16:36 Prepared	Analyzed	7 Dil Fac
1,4-Difluorobenzene (Surr) Method: TAL SOP Total BTEX Analyte Total BTEX	- Total BTEX Cal	Qualifier		MDL	<mark>Unit</mark> mg/Kg	<u>D</u>			Dil Fac
Method: TAL SOP Total BTEX Analyte Total BTEX	- Total BTEX Cale Result <0.00399	Qualifier U	<b>RL</b> 0.00399	MDL		<u>D</u>		Analyzed	Dil Fac
Method: TAL SOP Total BTEX Analyte Total BTEX Method: SW846 8015 NM - Die	- Total BTEX Cale Result <0.00399	Qualifier U	<b>RL</b> 0.00399	MDL	mg/Kg	<u>D</u>		Analyzed	Dil Fac
Method: TAL SOP Total BTEX Analyte Total BTEX Method: SW846 8015 NM - Die Analyte	- Total BTEX Cale Result <0.00399	Qualifier	RL 0.00399		mg/Kg		Prepared	Analyzed 10/10/23 00:13	1
Method: TAL SOP Total BTEX Analyte Total BTEX Method: SW846 8015 NM - Die Analyte Total TPH	- Total BTEX Cale Result <0.00399 sel Range Organ Result 3770	Qualifier U ics (DRO) (Qualifier	RL 0.00399 GC) RL 50.5		mg/Kg Unit		Prepared	Analyzed 10/10/23 00:13 Analyzed	1
Method: TAL SOP Total BTEX Analyte Total BTEX Method: SW846 8015 NM - Die Analyte Total TPH Method: SW846 8015B NM - D	- Total BTEX Cale Result <0.00399 sel Range Organ Result 3770 iesel Range Orga	Qualifier U ics (DRO) (( Qualifier	RL 0.00399 GC) RL 50.5		mg/Kg Unit mg/Kg		Prepared	Analyzed 10/10/23 00:13 Analyzed	1
Method: TAL SOP Total BTEX Analyte	- Total BTEX Cale Result <0.00399 sel Range Organ Result 3770 iesel Range Orga	Qualifier U ics (DRO) (Qualifier nics (DRO) Qualifier	RL	MDL	mg/Kg Unit mg/Kg	<u>D</u>	Prepared Prepared	Analyzed 10/10/23 00:13 Analyzed 10/07/23 01:35	1 Dil Fac

C10-C28) Oll Range Organics (Over C28-C36) <50.5 U 50.5 10/04/23 11:48 10/07/23 01:35 mg/Kg 1 %Recovery Qualifier Limits Dil Fac Surrogate Prepared Analyzed 70 - 130 10/04/23 11:48 1-Chlorooctane 145 S1+ 10/07/23 01:35 1 o-Terphenyl 125 70 - 130 10/04/23 11:48 10/07/23 01:35 1

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		Clien	t Sample R	lesults	;				
Client: Crain Environmental			-					Job ID: 880-	
Project/Site: Anderson Ranch #017H								SDG: Lea	I Co NM
Client Sample ID: TH-2 (0-6") Date Collected: 09/29/23 13:32							Lab Sam	ple ID: 880-3 Matri	<b>3915-4</b> ix: Solid
Date Received: 10/02/23 16:07 Sample Depth: 0-6"									
Method: EPA 300.0 - Anions, Ion C Analyte		o <mark>hy - Solubl</mark> Qualifier	e RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2710		24.8		mg/Kg			10/06/23 09:22	5
Client Sample ID: TH-2 (5') Date Collected: 09/29/23 13:36 Date Received: 10/02/23 16:07 Sample Depth: 5'							Lad Sam	ple ID: 880-3 Matri	ix: Solid
Method: SW846 8021B - Volatile Or Analyte		ounds (GC) Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201		0.00201		mg/Kg	<u> </u>	10/04/23 16:36	10/10/23 00:33	1
Toluene	< 0.00201		0.00201		mg/Kg		10/04/23 16:36	10/10/23 00:33	1
Ethylbenzene	< 0.00201		0.00201		mg/Kg		10/04/23 16:36	10/10/23 00:33	1
m-Xylene & p-Xylene	< 0.00201		0.00402		mg/Kg		10/04/23 16:36	10/10/23 00:33	
o-Xylene	<0.00402		0.00201		mg/Kg		10/04/23 16:36	10/10/23 00:33	1
Xylenes, Total	<0.00402		0.00402		mg/Kg		10/04/23 16:36	10/10/23 00:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				10/04/23 16:36	10/10/23 00:33	1
1,4-Difluorobenzene (Surr)	92		70 - 130				10/04/23 16:36	10/10/23 00:33	1
 Method: TAL SOP Total BTEX - Tot	al BTEX Calo	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/10/23 00:33	1
Method: SW846 8015 NM - Diesel F	Range Organ	ics (DRO) (0	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	239		49.8		mg/Kg			10/07/23 03:51	1
Method: SW846 8015B NM - Diesel	Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/04/23 11:48	10/07/23 03:51	1
Diesel Range Organics (Over C10-C28)	239		49.8		mg/Kg		10/04/23 11:48	10/07/23 03:51	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/04/23 11:48	10/07/23 03:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	151	S1+	70 - 130				10/04/23 11:48	10/07/23 03:51	1
o-Terphenyl	133	S1+	70 - 130				10/04/23 11:48	10/07/23 03:51	1
Method: EPA 300.0 - Anions, Ion C Analyte		o <mark>hy - Solubl</mark> Qualifier	e RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Juannen					riepaieu		

Eurofins Midland

10/06/23 09:29

Chloride

25.2

mg/Kg

Dil Fac

1

Job ID: 880-33915-1 SDG: Lea Co NM

## Client Sample ID: TH-2 (9')

Method: SW846 8021B - Volatile Organic Compounds (GC)

Result Qualifier

<0.00200 U

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 13:40 Date Received: 10/02/23 16:07

Client: Crain Environmental

Sample Depth: 9'

Analyte

Benzene

Analyzed

10/10/23 00:54

5

<b>T</b> 1	.0.0000							40/40/00 00 54	
Toluene	< 0.00200		0.00200		mg/Kg		10/04/23 16:36	10/10/23 00:54	1
Ethylbenzene	<0.00200		0.00200		mg/Kg		10/04/23 16:36	10/10/23 00:54	1
m-Xylene & p-Xylene	<0.00401		0.00401		mg/Kg		10/04/23 16:36	10/10/23 00:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 00:54	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/04/23 16:36	10/10/23 00:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130				10/04/23 16:36	10/10/23 00:54	1
1,4-Difluorobenzene (Surr)	97		70 - 130				10/04/23 16:36	10/10/23 00:54	1
Method: TAL SOP Total BTEX - To	tal BTEX Calo	ulation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			10/10/23 00:54	1
Method: SW846 8015 NM - Diesel I	Range Organ	ics (DRO) (	GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	64.8		49.6		mg/Kg			10/07/23 00:04	1
Method: SW846 8015B NM - Diese	l Range Orga	nics (DRO)	(GC)						
				MDL	Unit	D	Prepared	Analvzed	Dil Fac
Analyte		Qualifier	(GC) 	MDL	Unit mg/Kg	<u>D</u>	Prepared 10/04/23 11:48	Analyzed	Dil Fac
Analyte Gasoline Range Organics	Result	Qualifier	RL	MDL	Unit mg/Kg	<u>D</u>	· · · · · · · · · · · · · · · · · · ·		Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10	Result	Qualifier	RL	MDL		<u> </u>	· · · · · · · · · · · · · · · · · · ·		1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result           <49.6	Qualifier U	<b>RL</b> 49.6 49.6	MDL	mg/Kg mg/Kg	<u> </u>	10/04/23 11:48 10/04/23 11:48	10/07/23 00:04 10/07/23 00:04	1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<b>Result</b> <49.6	Qualifier U	<b>RL</b> 49.6	MDL	mg/Kg	<u> </u>	10/04/23 11:48	10/07/23 00:04	1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result           <49.6	Qualifier U	<b>RL</b> 49.6 49.6	MDL	mg/Kg mg/Kg	<u> </u>	10/04/23 11:48 10/04/23 11:48	10/07/23 00:04 10/07/23 00:04	1 1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Result           <49.6	Qualifier U	RL 49.6 49.6 49.6	MDL	mg/Kg mg/Kg	<u>D</u>	10/04/23 11:48 10/04/23 11:48 10/04/23 11:48	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04	1 1 1 <i>Dil Fac</i>
Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result           <49.6	Qualifier U Qualifier	RL 49.6 49.6 49.6 <i>Limits</i>	MDL	mg/Kg mg/Kg	<u> </u>	10/04/23 11:48 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b>	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b>	1 1 1 <b>Dil Fac</b> 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result           <49.6	Qualifier U Qualifier S1+	RL           49.6           49.6           49.6           20.6           Limits           70.130           70.130	MDL	mg/Kg mg/Kg	<u>D</u>	10/04/23 11:48 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b> 10/04/23 11:48	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04 <u>Analyzed</u> 10/07/23 00:04	1 1 1 <b>Dil Fac</b> 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result           <49.6	Qualifier U Qualifier S1+	RL           49.6           49.6           49.6           20.6           Limits           70.130           70.130		mg/Kg mg/Kg	<u>D</u>	10/04/23 11:48 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b> 10/04/23 11:48	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04 <u>Analyzed</u> 10/07/23 00:04	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: EPA 300.0 - Anions, Ion C	Result           <49.6	Qualifier U Qualifier S1+	RL         49.6         49.6         49.6         20.6         Limits         70 - 130         70 - 130         8		mg/Kg mg/Kg mg/Kg		10/04/23 11:48 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b> 10/04/23 11:48 10/04/23 11:48	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b> 10/07/23 00:04 10/07/23 00:04	1 1 1 1 1 1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: EPA 300.0 - Anions, Ion C Analyte Chloride	Result           <49.6	Qualifier U Qualifier S1+	RL           49.6           49.6           49.6           19.6           Limits           70 - 130           70 - 130           8           RL		mg/Kg mg/Kg mg/Kg Unit		10/04/23 11:48 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b> 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b>	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b> 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b> 10/06/23 10:22	1 1 1 1 1 1 1 1 1 1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: EPA 300.0 - Anions, Ion C Analyte Chloride Chloride	Result           <49.6	Qualifier U Qualifier S1+	RL           49.6           49.6           49.6           19.6           Limits           70 - 130           70 - 130           8           RL		mg/Kg mg/Kg mg/Kg Unit		10/04/23 11:48 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b> 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b>	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b> 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b> 10/06/23 10:22 <b>ple ID: 880-3</b>	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: EPA 300.0 - Anions, Ion C Analyte Chloride	Result           <49.6	Qualifier U Qualifier S1+	RL           49.6           49.6           49.6           19.6           Limits           70 - 130           70 - 130           8           RL		mg/Kg mg/Kg mg/Kg Unit		10/04/23 11:48 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b> 10/04/23 11:48 10/04/23 11:48 <b>Prepared</b>	10/07/23 00:04 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b> 10/07/23 00:04 10/07/23 00:04 <b>Analyzed</b> 10/06/23 10:22 <b>ple ID: 880-3</b>	1 1 1 1 1 1 1 1 1 1 1 1 1

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC)	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 01:14	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 01:14	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 01:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/04/23 16:36	10/10/23 01:14	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 01:14	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/04/23 16:36	10/10/23 01:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130				10/04/23 16:36	10/10/23 01:14	1

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**Client Sample Results** 

RL

0.00200

MDL Unit

mg/Kg

D

Prepared

10/04/23 16:36

Released to Imaging: 10/4/2024 3:24:18 PM

Matrix: Solid

5

#### **Client Sample Results**

Job ID: 880-33915-1 SDG: Lea Co NM

Lab Sample ID: 880-33915-7

### Client Sample ID: TH-3 (0-6")

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 14:08 Date Received: 10/02/23 16:07

Client: Crain Environmental

Sample Depth: 0-6"

#### Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued) %Recovery Qualifier Limits Prepared Surrogate Analyzed Dil Fac 70 - 130 10/04/23 16:36 1,4-Difluorobenzene (Surr) 95 10/10/23 01:14 Method: TAL SOP Total BTEX - Total BTEX Calculation Analyte Result Qualifier RL MDL Unit D Analyzed Dil Fac Prepared Total BTEX <0.00398 Ū 0.00398 10/10/23 01:14 mg/Kg Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac **Total TPH** 49.6 10/07/23 03:28 103 mg/Kg Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) MDL Unit Analyte **Result Qualifier** RL D Prepared Analyzed Dil Fac <49.6 U mg/Kg Gasoline Range Organics 49.6 10/04/23 11:48 10/07/23 03:28 (GRO)-C6-C10 49.6 10/04/23 11:48 10/07/23 03:28 **Diesel Range Organics (Over** 103 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <49.6 U 49.6 mg/Kg 10/04/23 11:48 10/07/23 03:28 Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1-Chlorooctane 150 S1+ 70 - 130 10/04/23 11:48 10/07/23 03:28 10/07/23 03:28 135 S1+ 70 - 130 10/04/23 11:48 o-Terphenyl 1 Method: EPA 300.0 - Anions, Ion Chromatography - Soluble Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac 4.98 10/06/23 10:29 Chloride 49.2 mg/Kg 1 Client Sample ID: TH-3 (3') Lab Sample ID: 880-33915-8 Date Collected: 09/29/23 14:10 Matrix: Solid

Date Collected: 09/29/23 14:10 Date Received: 10/02/23 16:07 Sample Depth: 3'

Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Benzene <0.00199 U 0.00199 mg/Kg 10/04/23 16:36 10/10/23 01:34 Toluene <0.00199 U 0 00199 10/04/23 16:36 10/10/23 01:34 mg/Kg 1 Ethylbenzene <0.00199 U 0.00199 10/04/23 16:36 10/10/23 01:34 mg/Kg 10/10/23 01:34 m-Xylene & p-Xylene <0.00398 U 0.00398 10/04/23 16:36 mg/Kg 1 o-Xylene <0.00199 U 0.00199 mg/Kg 10/04/23 16:36 10/10/23 01:34 Xylenes, Total <0.00398 U 0.00398 mg/Kg 10/04/23 16:36 10/10/23 01:34 1 %Recovery Qualifier Limits Dil Fac Surrogate Prepared Analvzed 70 - 1304-Bromofluorobenzene (Surr) 100 10/04/23 16:36 10/10/23 01:34 1 1,4-Difluorobenzene (Surr) 98 70 - 130 10/04/23 16:36 10/10/23 01:34 1 Method: TAL SOP Total BTEX - Total BTEX Calculation Analvte Result Qualifier MDL D RL Unit Prepared Analyzed Dil Fac Total BTEX <0.00398 Ū 0.00398 10/10/23 01:34 mg/Kg Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac

**Eurofins Midland** 

10/07/23 02:43

**Total TPH** 

50.2

mg/Kg

1430

1

Job ID: 880-33915-1 SDG: Lea Co NM

Lab Sample ID: 880-33915-9

Matrix: Solid

## Client Sample ID: TH-3 (3')

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 14:10 Date Received: 10/02/23 16:07

Client: Crain Environmental

Sample Depth: 3'

Method: SW846 8015B NM - Dies Analyte		Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
							<u> </u>		DIFAC
Gasoline Range Organics	<50.2	U	50.2		mg/Kg		10/04/23 11:48	10/07/23 02:43	1
(GRO)-C6-C10									
Diesel Range Organics (Over	1430		50.2		mg/Kg		10/04/23 11:48	10/07/23 02:43	1
C10-C28)									
Oll Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		10/04/23 11:48	10/07/23 02:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	159	S1+	70 - 130				10/04/23 11:48	10/07/23 02:43	1
o-Terphenyl	137	S1+	70 - 130				10/04/23 11:48	10/07/23 02:43	1

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

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Chloride	230	25.2	mg/Kg			10/06/23 10:35	5

#### Client Sample ID: TH-3 (5')

Date Collected: 09/29/23 14:20 Date Received: 10/02/23 16:07

Sample Depth: 5'

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 01:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 01:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 01:55	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/04/23 16:36	10/10/23 01:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 01:55	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/04/23 16:36	10/10/23 01:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130				10/04/23 16:36	10/10/23 01:55	1
1,4-Difluorobenzene (Surr)	102		70 - 130				10/04/23 16:36	10/10/23 01:55	1
Method: TAL SOP Total BTEX	- Total BTEX Calo	culation							
		culation Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Method: TAL SOP Total BTEX Analyte Total BTEX		Qualifier	<b>RL</b>	MDL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed	Dil Fac
Analyte Total BTEX	Result <0.00399	Qualifier U	0.00399	MDL		<u> </u>	Prepared		Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - Die	Result <0.00399 esel Range Organ	Qualifier U	0.00399	MDL MDL	mg/Kg	<u>D</u> 	Prepared		1
Analyte Total BTEX Method: SW846 8015 NM - Die Analyte	Result <0.00399 esel Range Organ	Qualifier U ics (DRO) ( Qualifier	0.00399		mg/Kg	=	<u> </u>	10/10/23 01:55	1
Analyte	esel Range Organ Result Colored Result Colored Color	Qualifier U ics (DRO) ( Qualifier U	0.00399 GC) RL 50.5		mg/Kg Unit	=	<u> </u>	10/10/23 01:55	Dil Fac 1 Dil Fac 1
Analyte Total BTEX Method: SW846 8015 NM - Die Analyte Total TPH Method: SW846 8015B NM - D	esel Range Organ Result <0.00399 Result <50.5 Diesel Range Orga	Qualifier U ics (DRO) ( Qualifier U	0.00399 GC) RL 50.5	MDL	mg/Kg Unit	=	<u> </u>	10/10/23 01:55	1 Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - Die Analyte Total TPH	esel Range Organ Result <0.00399 Result <50.5 Diesel Range Orga	Qualifier U ics (DRO) ( Qualifier U mics (DRO) Qualifier	0.00399 GC) RL 50.5	MDL	mg/Kg Unit mg/Kg	<u>D</u>	Prepared	10/10/23 01:55 Analyzed 10/07/23 00:26	1

Surrogate 1-Chlorooctane o-Terphenyl	·	<b>Qualifier</b> S1+	Limits 70 - 130 70 - 130		Prepared 10/04/23 11:48 10/04/23 11:48	Analyzed 10/07/23 00:26 10/07/23 00:26	<b>Dil Fac</b> 1 1
Oll Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg	10/04/23 11:48	10/07/23 00:26	1
Diesel Range Organics (Over C10-C28)	<50.5	0	50.5	mg/Kg	10/04/23 11:48	10/07/23 00:26	1

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 Lab Sample ID: 880-33915-8 Matrix: Solid
 3

 Prepared
 Analyzed
 Dil Fac

 //04/23 11:48
 10/07/23 02:43
 1

 //04/23 11:48
 10/07/23 02:43
 1

 //04/23 11:48
 10/07/23 02:43
 1

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 10/07/23 02:43
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 //04/23 11:48
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 10/07/23 02:43
 1

 //04/24
 10/07

		Client	Sample F	Results	5				
Client: Crain Environmental								Job ID: 880-	33915-1
Project/Site: Anderson Ranch #017	Н							SDG: Lea	a Co NM
Client Sample ID: TH-3 (5')							Lab Sam	ple ID: 880-3	3915-9
Date Collected: 09/29/23 14:20								-	ix: Solid
Date Received: 10/02/23 16:07									
Sample Depth: 5'									
Method: EDA 200.0 Anione Jan	Chromotower	ahu Calubla							
Method: EPA 300.0 - Anions, Ion Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	222		4.97		mg/Kg			10/06/23 10:42	1
 Client Sample ID: TH-4 (0-6"	'\						Lah Samn	le ID: 880-33	915-10
Date Collected: 09/29/23 13:55	,						Lab Gamp		ix: Solid
Date Received: 10/02/23 16:07								Iviau	x. Soliu
Sample Depth: 0-6"									
Method: SW846 8021B - Volatile			51		11	_	Description	A	D!!
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200		0.00200		mg/Kg		10/04/23 16:36	10/10/23 02:15	1
Toluene	<0.00200		0.00200		mg/Kg		10/04/23 16:36	10/10/23 02:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/10/23 02:15	1
m-Xylene & p-Xylene	0.00956		0.00401		mg/Kg		10/04/23 16:36	10/10/23 02:15	1
o-Xylene	0.00264		0.00200		mg/Kg		10/04/23 16:36	10/10/23 02:15	1
Xylenes, Total	0.0122		0.00401		mg/Kg		10/04/23 16:36	10/10/23 02:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130				10/04/23 16:36	10/10/23 02:15	1
1,4-Difluorobenzene (Surr)	102		70 - 130				10/04/23 16:36	10/10/23 02:15	1
Method: TAL SOP Total BTEX - T	otal BTEX Cal	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0122		0.00401		mg/Kg			10/10/23 02:15	1
			•						
Method: SW846 8015 NM - Diese Analyte		Qualifier	C) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5320		253		mg/Kg			10/07/23 01:12	1
					0 0				
Method: SW846 8015B NM - Dies	el Range Orga	anics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<253	U	253		mg/Kg		10/04/23 11:48	10/07/23 01:12	5
(GRO)-C6-C10			050				40/04/00 11 10	40/07/00 04 40	-
Diesel Range Organics (Over C10-C28)	5320		253		mg/Kg		10/04/23 11:48	10/07/23 01:12	5
Oll Range Organics (Over C28-C36)	<253	U	253		mg/Kg		10/04/23 11:48	10/07/23 01:12	5
Surrogata	9/ Daganes	Qualifier	Limita				Bronewood	Analizad	D# 5
Surrogate	%Recovery	Quaimer	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130 70 - 130				10/04/23 11:48	10/07/23 01:12	5
o-Terphenyl	111		70 - 130				10/04/23 11:48	10/07/23 01:12	5
Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Soluble							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
			1.00					40/00/00 40.40	-

AnalyteResultQualifierRLMDLUnitDPreparedAnalyzedChloride7354.98mg/Kg10/06/23 10:48

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Job ID: 880-33915-1 SDG: Lea Co NM

## Client Sample ID: TH-4 (5')

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 14:05 Date Received: 10/02/23 16:07

Client: Crain Environmental

Sample Depth: 5'

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 04:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 04:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 04:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/04/23 16:36	10/10/23 04:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 04:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/04/23 16:36	10/10/23 04:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
I-Bromofluorobenzene (Surr)	85		70 - 130				10/04/23 16:36	10/10/23 04:46	1
1,4-Difluorobenzene (Surr)	99		70 - 130				10/04/23 16:36	10/10/23 04:46	1
Method: TAL SOP Total BTEX - T	otal BTEX Calo	ulation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/10/23 04:46	1
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fotal TPH	2540		49.9		mg/Kg			10/07/23 02:21	1
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)						
Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/04/23 11:48	10/07/23 02:21	1
Diesel Range Organics (Over C10-C28)	2540		49.9		mg/Kg		10/04/23 11:48	10/07/23 02:21	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/04/23 11:48	10/07/23 02:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	175	S1+	70 - 130				10/04/23 11:48	10/07/23 02:21	1
p-Terphenyl	147	S1+	70 - 130				10/04/23 11:48	10/07/23 02:21	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	246	F1	5.02		mg/Kg			10/06/23 10:55	1
lient Sample ID: TH-5 (0-6"	')						Lab Samp	le ID: 880-33	915-12
ate Collected: 09/29/23 13:45								Matri	x: Solid
ate Received: 10/02/23 16:07									
ample Depth: 0-6"									
Method: SW846 8021B - Volatile	Organic Comp	ounds (GC	)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/04/23 16:36	10/10/23 05:06	1
Toluene	< 0.00199		0.00199		mg/Kg		10/04/23 16:36	10/10/23 05:06	1

4-Bromofluorobenzene (Surr)	97		70 - 130		10/04/23 16:36	10/10/23 05:06	
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil F
Xylenes, Total	<0.00398	U	0.00398	mg/Kg	10/04/23 16:36	10/10/23 05:06	
o-Xylene	<0.00199	U	0.00199	mg/Kg	10/04/23 16:36	10/10/23 05:06	
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg	10/04/23 16:36	10/10/23 05:06	
Ethylbenzene	<0.00199	U	0.00199	mg/Kg	10/04/23 16:36	10/10/23 05:06	
Toluene	<0.00199	U	0.00199	mg/Kg	10/04/23 16:36	10/10/23 05:06	

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Fac 1

#### **Client Sample Results**

Limits

70 - 130

RL

RL

49.7

RL

49.7

49.7

49.7

Limits

70 - 130

70 - 130

0.00398

MDL Unit

MDL Unit

MDL Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

Job ID: 880-33915-1 SDG: Lea Co NM

10/10/23 05:06

Analyzed

10/10/23 05:06

Analyzed

10/07/23 04:13

Analyzed

10/07/23 04:13

Lab Sample ID: 880-33915-13

Matrix: Solid

......

### Client Sample ID: TH-5 (0-6")

Project/Site: Anderson Ranch #017H

Date Collected: 09/29/23 13:45 Date Received: 10/02/23 16:07

Sample Depth: 0-6"

1,4-Difluorobenzene (Surr)

Gasoline Range Organics

**Diesel Range Organics (Over** 

Oll Range Organics (Over C28-C36)

Surrogate

Analyte

Analyte

Analyte

C10-C28)

Surrogate

o-Terphenyl

1-Chlorooctane

(GRO)-C6-C10

Total TPH

Total BTEX

Client: Crain Environmental

Lab Sampl	e ID: 880-33 Mati	3915-12 rix: Solid	
Prepared	Analyzed	Dil Fac	

Dil Fac

Dil Fac

Dil Fac

9	10/04/23 11:48	10/07/23 04:13	1
9	10/04/23 11:48	10/07/23 04:13	1
	Prepared	Analyzed	Dil Fac
	10/04/23 11:48	10/07/23 04:13	1

10/04/23 16:36

Prepared

Prepared

Prepared

10/04/23 11:48

D

D

D

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

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Method: TAL SOP Total BTEX - Total BTEX Calculation

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

%Recovery Qualifier

Result Qualifier

Ū

Result Qualifier

**Result Qualifier** 

<49.7 U

<49.7 U

<49.7 U

<49.7 U

%Recovery Qualifier

140 S1+

161 S1+

106

<0.00398

Analyte	Result Qualit	fier RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.6	5.03	mg/Kg			10/06/23 11:15	1

#### Client Sample ID: TH-5 (2.5')

Date Collected: 09/29/23 13:50 Date Received: 10/02/23 16:07 Sample Depth: 2.5'

#### Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Benzene <0.00200 U 0.00200 mg/Kg 10/04/23 16:36 10/10/23 05:27 Toluene <0.00200 U 0.00200 10/04/23 16:36 10/10/23 05.27 mg/Kg 1 Ethylbenzene <0.00200 U 0.00200 10/04/23 16:36 10/10/23 05:27 mg/Kg 0.00399 10/10/23 05:27 m-Xylene & p-Xylene <0.00399 U 10/04/23 16:36 mg/Kg 1 o-Xylene <0.00200 U 0.00200 mg/Kg 10/04/23 16:36 10/10/23 05:27 Xylenes, Total <0.00399 U 0.00399 mg/Kg 10/04/23 16:36 10/10/23 05:27 1 %Recovery Qualifier Limits Dil Fac Surrogate Prepared Analvzed 70 - 1304-Bromofluorobenzene (Surr) 102 10/04/23 16:36 10/10/23 05.27 1 1,4-Difluorobenzene (Surr) 106 70 - 130 10/04/23 16:36 10/10/23 05:27 1 Method: TAL SOP Total BTEX - Total BTEX Calculation Analvte Result Qualifier RL MDL D Unit Prepared Analvzed Dil Fac Total BTEX <0.00399 Ū 0.00399 10/10/23 05:27 mg/Kg Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac <49.8 U 10/07/23 04:34 Total TPH 49.8 mg/Kg 1

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# **Client Sample Results**

Job ID: 880-33915-1 SDG: Lea Co NM

# Project/Site: Anderson Ranch #017H Client Sample ID: TH-5 (2.5')

# Date Collected: 09/29/23 13:50

Client: Crain Environmental

Date Received: 10/02/23 16:07 Sample Depth: 2.5'

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.8	U	49.8		mg/Kg		10/04/23 11:48	10/07/23 04:34	1
(GRO)-C6-C10									
Diesel Range Organics (Over	<49.8	U	49.8		mg/Kg		10/04/23 11:48	10/07/23 04:34	1
C10-C28)									
Oll Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/04/23 11:48	10/07/23 04:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	170	S1+	70 - 130				10/04/23 11:48	10/07/23 04:34	1
o-Terphenyl	159	S1+	70 - 130				10/04/23 11:48	10/07/23 04:34	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	le						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
		-							

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Lab Sample ID: 880-33915-13

5

Client: Crain Environmental Project/Site: Anderson Ranch #017H

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

		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-33915-1	TH-1 (0-6")	55 S1-	111
880-33915-2	TH-1 (5')	62 S1-	105
880-33915-3	TH-1 (10')	80	95
880-33915-3 MS	TH-1 (10')	100	105
880-33915-3 MSD	TH-1 (10')	111	107
880-33915-4	TH-2 (0-6")	107	95
880-33915-5	TH-2 (5')	97	92
880-33915-6	TH-2 (9')	99	97
880-33915-7	TH-3 (0-6")	95	95
880-33915-8	TH-3 (3')	100	98
880-33915-9	TH-3 (5')	101	102
880-33915-10	TH-4 (0-6")	90	102
880-33915-11	TH-4 (5')	85	99
880-33915-12	TH-5 (0-6")	97	106
880-33915-13	TH-5 (2.5')	102	106
LCS 880-63969/1-A	Lab Control Sample	108	103
LCS 880-64288/1-A	Lab Control Sample	114	109
LCSD 880-63969/2-A	Lab Control Sample Dup	101	104
LCSD 880-64288/2-A	Lab Control Sample Dup	116	110
MB 880-63969/5-A	Method Blank	118	148 S1+
MB 880-64254/8	Method Blank	121	138 S1+
MB 880-64288/5-A	Method Blank	72	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

#### Matrix: Solid

				Percent Surrogate Reco
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-33915-1	TH-1 (0-6")	127	111	· ·
880-33915-2	TH-1 (5')	187 S1+	166 S1+	
880-33915-3	TH-1 (10')	158 S1+	144 S1+	
880-33915-4	TH-2 (0-6")	145 S1+	125	
880-33915-5	TH-2 (5')	151 S1+	133 S1+	
880-33915-6	TH-2 (9')	145 S1+	130	
880-33915-7	TH-3 (0-6")	150 S1+	135 S1+	
880-33915-8	TH-3 (3')	159 S1+	137 S1+	
880-33915-9	TH-3 (5')	142 S1+	129	
880-33915-10	TH-4 (0-6")	119	111	
880-33915-11	TH-4 (5')	175 S1+	147 S1+	
880-33915-12	TH-5 (0-6")	161 S1+	140 S1+	
880-33915-13	TH-5 (2.5')	170 S1+	159 S1+	
LCS 880-63937/2-A	Lab Control Sample	132 S1+	143 S1+	
LCSD 880-63937/3-A	Lab Control Sample Dup	107	114	
MB 880-63937/1-A	Method Blank	145 S1+	140 S1+	
Surrogate Legend				

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Job ID: 880-33915-1 SDG: Lea Co NM

Prep Type: Total/NA

Prep Type: Total/NA

# **Surrogate Summary**

Client: Crain Environmental Project/Site: Anderson Ranch #017H 1CO = 1-Chlorooctane OTPH = o-Terphenyl Job ID: 880-33915-1 SDG: Lea Co NM

# **QC Sample Results**

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

Lab Sample ID: MB 880-63969/5-A Matrix: Solid Analysis Batch: 64254							Client Sa	mple ID: Metho Prep Type: ٦ Prep Batcl	Total/NA
	МВ	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/09/23 23:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/09/23 23:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/09/23 23:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/04/23 16:36	10/09/23 23:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/23 16:36	10/09/23 23:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/04/23 16:36	10/09/23 23:24	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130				10/04/23 16:36	10/09/23 23:24	1
1,4-Difluorobenzene (Surr)	148	S1+	70 - 130				10/04/23 16:36	10/09/23 23:24	1
Lab Sample ID: LCS 880-63969/1-A						c	lient Sample I	D: Lab Control	Sample
Matrix: Solid								Prep Type: 1	
Analysis Batch: 64254								Prep Batch	
-			Spike	LCS LCS	i			%Rec	

	Зріке	L03	L03				/onec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1069		mg/Kg		107	70 - 130	
Toluene	0.100	0.09231		mg/Kg		92	70 - 130	
Ethylbenzene	0.100	0.08765		mg/Kg		88	70 - 130	
m-Xylene & p-Xylene	0.200	0.2194		mg/Kg		110	70 - 130	
o-Xylene	0.100	0.1079		mg/Kg		108	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

## Lab Sample ID: LCSD 880-63969/2-A

#### Matrix: Solid and the product

Analysis Batch: 64254								Batch:	
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1086		mg/Kg		109	70 - 130	2	35
Toluene	0.100	0.09493		mg/Kg		95	70 - 130	3	35
Ethylbenzene	0.100	0.08672		mg/Kg		87	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2113		mg/Kg		106	70 - 130	4	35
o-Xylene	0.100	0.1037		mg/Kg		104	70 - 130	4	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

#### Lab Sample ID: 880-33915-3 MS Matrix: Solid

#### Analysis Ratch: 64254

Analysis Batch: 64254									Prep	Batch: 63969
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	< 0.00199	U	0.0996	0.09624		mg/Kg		97	70 - 130	
Toluene	<0.00199	U	0.0996	0.09177		mg/Kg		92	70 - 130	

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Client Sample ID: TH-1 (10')

Prep Type: Total/NA

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

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Job ID: 880-33915-1 SDG: Lea Co NM

# **Released to Imaging: 10/4/2024 3:24:18 PM**

# **QC Sample Results**

Client: Crain Environmental Project/Site: Anderson Ranch #017H Job ID: 880-33915-1 SDG: Lea Co NM

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

Lab Sample ID: 880-33915-3 MS Matrix: Solid										Clie	ent Sample Prep T	ID: TH- `ype: To	
Analysis Batch: 64254											Prep	Batch:	63969
	Sample	Sam	ple	Spike	MS	MS					%Rec		
Analyte	Result	Qua	lifier	Added	Result	Qua	lifier	Unit	0	) %Rec	Limits		
Ethylbenzene	<0.00199	U		0.0996	0.07881			mg/Kg		79	70 - 130		
m-Xylene & p-Xylene	<0.00398	U		0.199	0.1980			mg/Kg		99	70 - 130		
o-Xylene	<0.00199	U		0.0996	0.09763			mg/Kg		98	70 _ 130		
	MS	мs											
Surrogate	%Recovery	Qua	lifier	Limits									
4-Bromofluorobenzene (Surr)	100			70 - 130									
1,4-Difluorobenzene (Surr)	105			70 - 130									
Lab Sample ID: 880-33915-3 MS	D									Clie	ent Sample	ID: TH-	1 (10'
Matrix: Solid	-											ype: To	
Analysis Batch: 64254												Batch:	
analysis Batom 04204	Sample	Sam	ple	Spike	MSD	MSD	)				%Rec	Saton.	RPE
Analyte	Result			Added	Result			Unit		) %Rec	Limits	RPD	Limi
Benzene	<0.00199			0.0990	0.1001	<u>u</u> ud		mg/Kg		101	70 - 130	4	35
Toluene	<0.00199			0.0990	0.08862			mg/Kg		90	70 - 130 70 - 130	3	3
Ethylbenzene	<0.00199			0.0990	0.08244			mg/Kg		83	70 - 130 70 - 130	5	3
m-Xylene & p-Xylene	<0.00398			0.198	0.2009			mg/Kg		101	70 - 130		3
												1	3
o-Xylene	<0.00199	0		0.0990	0.09698			mg/Kg		98	70 - 130	I	30
	MSD	MSD											
Surrogate	%Recovery	Qua	lifier	Limits									
4-Bromofluorobenzene (Surr)	111			70 - 130									
1,4-Difluorobenzene (Surr)	107			70 - 130									
Lab Sample ID: MB 880-64254/8										Client S	Sample ID:	Method	Blank
Matrix: Solid											Prep T	ype: To	otal/N/
Analysis Batch: 64254													
		ΜВ	MB										
Analyte	R	esult	Qualifier	RI		MDL	Unit		D	Prepared	Analyz	ed	Dil Fa
Benzene	<0.0	0200	U	0.00200	)		mg/Kg	9			10/09/23	16:42	
Toluene	<0.0	0200	U	0.00200	)		mg/Kg	9			10/09/23	16:42	
Ethylbenzene	<0.0	0200	U	0.00200	)		mg/Kg	9			10/09/23	16:42	
m-Xylene & p-Xylene	<0.0	0400	U	0.00400	)		mg/Kg	9			10/09/23	16:42	
o-Xylene	<0.0	0200	U	0.00200	)		mg/Kg	3			10/09/23	16:42	
Xylenes, Total	<0.0	0400	U	0.00400	)		mg/Ko	9			10/09/23	16:42	
		ΜВ	МВ										
Surrogate	%Reco		Qualifier	Limits	_					Prepared	Analyz		Dil Fa
4-Bromofluorobenzene (Surr)		121		70 - 130							10/09/23	16:42	
1,4-Difluorobenzene (Surr)		138	S1+	70 - 130							10/09/23	16:42	
Lab Sample ID: MB 880-64288/5	-A									Client S	Sample ID:	Method	Blan
Matrix: Solid											Prep T	ype: To	otal/N/
Analysis Batch: 64326											Prep	Batch:	6428
		мв	МВ										

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/09/23 15:31	10/10/23 11:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/09/23 15:31	10/10/23 11:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/09/23 15:31	10/10/23 11:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/09/23 15:31	10/10/23 11:32	1

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

Lab Sample ID: MB 880-64288	0/ <b>3-</b> A								0110	ni Sa	mple ID: Metho	
Matrix: Solid											Prep Type:	Total/N/
Analysis Batch: 64326											Prep Batc	h: <mark>642</mark> 88
	ME	B MB										
Analyte	Resul	t Qualifier	RL		MDL	Unit		D	Prepare	əd	Analyzed	Dil Fa
o-Xylene	<0.00200	) U	0.00200			mg/Kg		_	10/09/23 1	5:31	10/10/23 11:32	
Xylenes, Total	<0.00400	) U	0.00400			mg/Kg			10/09/23 1	5:31	10/10/23 11:32	
	МЕ	B MB										
Surrogate	%Recovery	Qualifier	Limits						Prepar	ed	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	72	2	70 - 130						10/09/23 1	15:31	10/10/23 11:32	
1,4-Difluorobenzene (Surr)	98	3	70 - 130						10/09/23 1	15:31	10/10/23 11:32	
Lab Sample ID: LCS 880-6428 Matrix: Solid	38/1-A							C	lient San	nple I	D: Lab Control Prep Type:	
Matrix: Solid	38/1 <b>-A</b>							C	lient San	iple I	Prep Type:	Total/NA
Matrix: Solid	38/1-A		Spike	LCS	LCS			C	lient San	nple I		Total/NA
Matrix: Solid Analysis Batch: 64326	38/1-A		Spike Added	LCS Result			Unit	C	lient San		Prep Type: Prep Batc	Total/NA
Matrix: Solid Analysis Batch: 64326 Analyte	38/1-A		•				Unit mg/Kg	C	D_%R		Prep Type: Prep Batc %Rec	Total/NA
Matrix: Solid Analysis Batch: 64326 Analyte Benzene	38/1-A		Added	Result				C	<u>D %R</u> (	ec	Prep Type: Prep Batc %Rec Limits	Total/NA
Matrix: Solid Analysis Batch: 64326 Analyte Benzene Toluene	38/1-A		Added	<b>Result</b> 0.1054			mg/Kg	C	<u>D %R</u> i 1(	ec	Prep Type: Prep Batc %Rec Limits 70 - 130	Total/NA
Matrix: Solid Analysis Batch: 64326 Analyte Benzene Toluene Ethylbenzene	38/1-A		Added	<b>Result</b> 0.1054 0.1013			mg/Kg mg/Kg	C	D %Ri 1( 1(	ec 05	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130	Total/NA
Matrix: Solid Analysis Batch: 64326 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	38/1-A		Added 0.100 0.100 0.100	<b>Result</b> 0.1054 0.1013 0.1035			mg/Kg mg/Kg mg/Kg	C	<u><b>D</b>%</u> <b>R</b> 1( 1( 1(	ec 05 01 03	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130	Total/NA
Lab Sample ID: LCS 880-6428 Matrix: Solid Analysis Batch: 64326 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene	38/1-A	 S	Added 0.100 0.100 0.100 0.200	Result 0.1054 0.1013 0.1035 0.2202			mg/Kg mg/Kg mg/Kg mg/Kg	C	<u><b>D</b>%</u> <b>R</b> 1( 1( 1(	ec 05 01 03	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130	Total/NA
Matrix: Solid Analysis Batch: 64326 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene			Added 0.100 0.100 0.100 0.200	Result 0.1054 0.1013 0.1035 0.2202			mg/Kg mg/Kg mg/Kg mg/Kg	C	<u><b>D</b>%</u> <b>R</b> 1( 1( 1(	ec 05 01 03	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130	Total/NA
Matrix: Solid Analysis Batch: 64326 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	LCS LC		Added 0.100 0.100 0.100 0.200 0.100	Result 0.1054 0.1013 0.1035 0.2202			mg/Kg mg/Kg mg/Kg mg/Kg	C	<u><b>D</b>%</u> <b>R</b> 1( 1( 1(	ec 05 01 03	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130	Total/NA

Matrix: Solid

### Analysis Batch: 64326

Analysis Batch: 64326									Prep	Batch:	64288
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene			0.100	0.1058		mg/Kg		106	70 - 130	0	35
Toluene			0.100	0.09806		mg/Kg		98	70 - 130	3	35
Ethylbenzene			0.100	0.09978		mg/Kg		100	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2118		mg/Kg		106	70 - 130	4	35
o-Xylene			0.100	0.1081		mg/Kg		108	70 - 130	4	35
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								

Surrogate	%Recovery G	Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

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

Lab Sample ID: MB 880-63937/1-A Matrix: Solid Analysis Batch: 64070	мв	МВ					Client Sa	mple ID: Metho Prep Type: ⊺ Prep Batcł	otal/NA
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/23 09:49	10/06/23 19:14	1
Diesel Range Organics (Over	<50.0	U	50.0		mg/Kg		10/04/23 09:49	10/06/23 19:14	1
C10-C28) Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/23 09:49	10/06/23 19:14	1

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Prep Type: Total/NA

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

MB MB

Surrogate	%Recov	ery Qualifier	Limits	_			P	Prepared	Analyz	ed	Dil Fac	
1-Chlorooctane		145 S1+	70 - 130	_			10/0	04/23 09:49	10/06/23	19:14	1	
o-Terphenyl		140 S1+	70 - 130				10/0	04/23 09:49	10/06/23	19:14	1	5
Lab Sample ID: LCS 880-63937/	'2-A						Client	t Sample	ID: Lab Co			
Matrix: Solid									Prep 1	Type: To	tal/NA	
Analysis Batch: 64070									Prep	Batch:	63937	7
			Spike	LCS	LCS				%Rec			
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits			8
Gasoline Range Organics			1000	969.8		mg/Kg		97	70 - 130			•
(GRO)-C6-C10												Q
Diesel Range Organics (Over			1000	969.9		mg/Kg		97	70 - 130			3
C10-C28)												
	LCS	LCS										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	132	S1+	70 - 130									
o-Terphenyl	143	S1+	70 - 130									
Lab Sample ID: LCSD 880-6393	7/ <b>3-A</b>					Clie	ent San	nple ID: L	ab Contro	I Samp	e Dup	
Matrix: Solid									Prep 1	Type: To	tal/NA	13
Analysis Batch: 64070									Prep	Batch:	63937	
			Spike	LCSD	LCSD				%Rec		RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics			1000	981.5		mg/Kg		98	70 - 130	1	20	
(GRO)-C6-C10												
Diesel Range Organics (Over			1000	973.5		mg/Kg		97	70 - 130	0	20	
C10-C28)												
	LCSD	LCSD										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	107		70 - 130									
o-Terphenyl	114		70 - 130									

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-64003/1-A Matrix: Solid											Client S	Sample ID: Prep	Method Type: S	
Analysis Batch: 64045	МВ	мв												
Analyte	Result	Qualifier		RL		MDL	Unit		D	P	repared	Analyz	ed	Dil Fac
Chloride	<5.00	U		5.00			mg/Kg	1				10/06/23	08:29	1
Lab Sample ID: LCS 880-64003/2-A									Cli	ent	Sample	BID: Lab C	ontrol S	ample
Matrix: Solid													Type: S	
Analysis Batch: 64045														
			Spike		LCS	LCS						%Rec		
Analyte			Added		Result	Qual	lifier	Unit		D	%Rec	Limits		
Chloride			250		254.1			mg/Kg		_	102	90 - 110		
Lab Sample ID: LCSD 880-64003/3-A								CI	ient S	Sam	ple ID:	Lab Contro	I Samp	e Dup
Matrix: Solid											·		Type: S	
Analysis Batch: 64045														
			Spike		LCSD	LCS	D					%Rec		RPD
Analyte			Added		Result	Qual	lifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride			250		253.5			mg/Kg		_	101	90 - 110	0	20

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# Job ID: 880-33915-1 SDG: Lea Co NM

# **QC Sample Results**

Client: Crain Environmental Project/Site: Anderson Ranch #017H Job ID: 880-33915-1 SDG: Lea Co NM

# Method: 300.0 - Anions, Ion Chromatography

_ Lab Sample ID: 880-33915-1 MS Matrix: Solid								Clien	it Sample II Prep	D: TH-1 Type: So	· ·
Analysis Batch: 64045											
-	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	2990	F1	1250	4495	F1	mg/Kg		121	90 - 110		
 Lab Sample ID: 880-33915-1 MSD								Clien	it Sample I	D: TH-1	(0-6")
Matrix: Solid									Prep	Type: So	oluble
Analysis Batch: 64045											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	2990	F1	1250	4512	F1	mg/Kg		122	90 - 110	0	20
_ Lab Sample ID: 880-33915-11 MS								Cli	ent Sample	e ID: TH	-4 (5')
Matrix: Solid										Type: So	
Analysis Batch: 64045											
-	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	246	F1	251	551.7	F1	mg/Kg		122	90 - 110		
- Lab Sample ID: 880-33915-11 MSD	I							Cli	ent Sample	e ID: TH	-4 (5')
Matrix: Solid									Prep	Type: So	oluble
Analysis Batch: 64045											
-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	246	F1	251	553.0	F1	mg/Kg		122	90 - 110	0	20

Client: Crain Environmental Project/Site: Anderson Ranch #017H

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Job ID: 880-33915-1 SDG: Lea Co NM

# GC VOA

## Prep Batch: 63969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-3	TH-1 (10')	Total/NA	Solid	5035	
880-33915-4	TH-2 (0-6")	Total/NA	Solid	5035	
880-33915-5	TH-2 (5')	Total/NA	Solid	5035	
880-33915-6	TH-2 (9')	Total/NA	Solid	5035	
880-33915-7	TH-3 (0-6")	Total/NA	Solid	5035	
880-33915-8	TH-3 (3')	Total/NA	Solid	5035	
880-33915-9	TH-3 (5')	Total/NA	Solid	5035	
880-33915-10	TH-4 (0-6")	Total/NA	Solid	5035	
880-33915-11	TH-4 (5')	Total/NA	Solid	5035	
880-33915-12	TH-5 (0-6")	Total/NA	Solid	5035	
880-33915-13	TH-5 (2.5')	Total/NA	Solid	5035	
MB 880-63969/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63969/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63969/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-33915-3 MS	TH-1 (10')	Total/NA	Solid	5035	
880-33915-3 MSD	TH-1 (10')	Total/NA	Solid	5035	
nalysis Batch: 64254					
- I ah Sample ID	Client Sample ID	Pren Tyne	Matrix	Method	Pren Batch

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-3	TH-1 (10')	Total/NA	Solid	8021B	63969
880-33915-4	TH-2 (0-6")	Total/NA	Solid	8021B	63969
880-33915-5	TH-2 (5')	Total/NA	Solid	8021B	63969
880-33915-6	TH-2 (9')	Total/NA	Solid	8021B	63969
880-33915-7	TH-3 (0-6")	Total/NA	Solid	8021B	63969
880-33915-8	TH-3 (3')	Total/NA	Solid	8021B	63969
880-33915-9	TH-3 (5')	Total/NA	Solid	8021B	63969
880-33915-10	TH-4 (0-6")	Total/NA	Solid	8021B	63969
880-33915-11	TH-4 (5')	Total/NA	Solid	8021B	63969
880-33915-12	TH-5 (0-6")	Total/NA	Solid	8021B	63969
880-33915-13	TH-5 (2.5')	Total/NA	Solid	8021B	63969
MB 880-63969/5-A	Method Blank	Total/NA	Solid	8021B	63969
MB 880-64254/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-63969/1-A	Lab Control Sample	Total/NA	Solid	8021B	63969
LCSD 880-63969/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63969
880-33915-3 MS	TH-1 (10')	Total/NA	Solid	8021B	63969
880-33915-3 MSD	TH-1 (10')	Total/NA	Solid	8021B	63969

#### Prep Batch: 64288

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Total/NA	Solid	5035	
880-33915-2	TH-1 (5')	Total/NA	Solid	5035	
MB 880-64288/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-64288/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-64288/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

#### Analysis Batch: 64326

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Total/NA	Solid	8021B	64288
880-33915-2	TH-1 (5')	Total/NA	Solid	8021B	64288
MB 880-64288/5-A	Method Blank	Total/NA	Solid	8021B	64288
LCS 880-64288/1-A	Lab Control Sample	Total/NA	Solid	8021B	64288

Client: Crain Environmental Project/Site: Anderson Ranch #017H Job ID: 880-33915-1 SDG: Lea Co NM

# GC VOA (Continued)

## Analysis Batch: 64326 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-64288/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	64288
nalysis Batch: 64419					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Total/NA	Solid	Total BTEX	
880-33915-2	TH-1 (5')	Total/NA	Solid	Total BTEX	
880-33915-3	TH-1 (10')	Total/NA	Solid	Total BTEX	
880-33915-4	TH-2 (0-6")	Total/NA	Solid	Total BTEX	
880-33915-5	TH-2 (5')	Total/NA	Solid	Total BTEX	
880-33915-6	TH-2 (9')	Total/NA	Solid	Total BTEX	
880-33915-7	TH-3 (0-6")	Total/NA	Solid	Total BTEX	
880-33915-8	TH-3 (3')	Total/NA	Solid	Total BTEX	
880-33915-9	TH-3 (5')	Total/NA	Solid	Total BTEX	
880-33915-10	TH-4 (0-6")	Total/NA	Solid	Total BTEX	
880-33915-11	TH-4 (5')	Total/NA	Solid	Total BTEX	
880-33915-12	TH-5 (0-6")	Total/NA	Solid	Total BTEX	
880-33915-13	TH-5 (2.5')	Total/NA	Solid	Total BTEX	

## GC Semi VOA

#### Prep Batch: 63937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Total/NA	Solid	8015NM Prep	
880-33915-2	TH-1 (5')	Total/NA	Solid	8015NM Prep	
880-33915-3	TH-1 (10')	Total/NA	Solid	8015NM Prep	
880-33915-4	TH-2 (0-6")	Total/NA	Solid	8015NM Prep	
880-33915-5	TH-2 (5')	Total/NA	Solid	8015NM Prep	
880-33915-6	TH-2 (9')	Total/NA	Solid	8015NM Prep	
880-33915-7	TH-3 (0-6")	Total/NA	Solid	8015NM Prep	
880-33915-8	TH-3 (3')	Total/NA	Solid	8015NM Prep	
880-33915-9	TH-3 (5')	Total/NA	Solid	8015NM Prep	
880-33915-10	TH-4 (0-6")	Total/NA	Solid	8015NM Prep	
880-33915-11	TH-4 (5')	Total/NA	Solid	8015NM Prep	
880-33915-12	TH-5 (0-6")	Total/NA	Solid	8015NM Prep	
880-33915-13	TH-5 (2.5')	Total/NA	Solid	8015NM Prep	
MB 880-63937/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63937/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63937/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 64070

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Total/NA	Solid	8015B NM	63937
880-33915-2	TH-1 (5')	Total/NA	Solid	8015B NM	63937
880-33915-3	TH-1 (10')	Total/NA	Solid	8015B NM	63937
880-33915-4	TH-2 (0-6")	Total/NA	Solid	8015B NM	63937
880-33915-5	TH-2 (5')	Total/NA	Solid	8015B NM	63937
880-33915-6	TH-2 (9')	Total/NA	Solid	8015B NM	63937
880-33915-7	TH-3 (0-6")	Total/NA	Solid	8015B NM	63937
880-33915-8	TH-3 (3')	Total/NA	Solid	8015B NM	63937
880-33915-9	TH-3 (5')	Total/NA	Solid	8015B NM	63937
880-33915-10	TH-4 (0-6")	Total/NA	Solid	8015B NM	63937

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Client: Crain Environmental Project/Site: Anderson Ranch #017H

# GC Semi VOA (Continued)

## Analysis Batch: 64070 (Continued)

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-33915-11	TH-4 (5')	Total/NA	Solid	8015B NM	63937
880-33915-12	TH-5 (0-6")	Total/NA	Solid	8015B NM	63937
880-33915-13	TH-5 (2.5')	Total/NA	Solid	8015B NM	63937
MB 880-63937/1-A	Method Blank	Total/NA	Solid	8015B NM	63937
LCS 880-63937/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63937
LCSD 880-63937/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63937

#### Analysis Batch: 64241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Total/NA	Solid	8015 NM	
880-33915-2	TH-1 (5')	Total/NA	Solid	8015 NM	
880-33915-3	TH-1 (10')	Total/NA	Solid	8015 NM	
880-33915-4	TH-2 (0-6")	Total/NA	Solid	8015 NM	
880-33915-5	TH-2 (5')	Total/NA	Solid	8015 NM	
880-33915-6	TH-2 (9')	Total/NA	Solid	8015 NM	
880-33915-7	TH-3 (0-6")	Total/NA	Solid	8015 NM	
880-33915-8	TH-3 (3')	Total/NA	Solid	8015 NM	
880-33915-9	TH-3 (5')	Total/NA	Solid	8015 NM	
880-33915-10	TH-4 (0-6")	Total/NA	Solid	8015 NM	
880-33915-11	TH-4 (5')	Total/NA	Solid	8015 NM	
880-33915-12	TH-5 (0-6")	Total/NA	Solid	8015 NM	
880-33915-13	TH-5 (2.5')	Total/NA	Solid	8015 NM	

### HPLC/IC

#### Leach Batch: 64003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Soluble	Solid	DI Leach	
880-33915-2	TH-1 (5')	Soluble	Solid	DI Leach	
880-33915-3	TH-1 (10')	Soluble	Solid	DI Leach	
880-33915-4	TH-2 (0-6")	Soluble	Solid	DI Leach	
880-33915-5	TH-2 (5')	Soluble	Solid	DI Leach	
880-33915-6	TH-2 (9')	Soluble	Solid	DI Leach	
880-33915-7	TH-3 (0-6")	Soluble	Solid	DI Leach	
880-33915-8	TH-3 (3')	Soluble	Solid	DI Leach	
880-33915-9	TH-3 (5')	Soluble	Solid	DI Leach	
880-33915-10	TH-4 (0-6")	Soluble	Solid	DI Leach	
880-33915-11	TH-4 (5')	Soluble	Solid	DI Leach	
880-33915-12	TH-5 (0-6")	Soluble	Solid	DI Leach	
880-33915-13	TH-5 (2.5')	Soluble	Solid	DI Leach	
MB 880-64003/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-64003/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-64003/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-33915-1 MS	TH-1 (0-6")	Soluble	Solid	DI Leach	
880-33915-1 MSD	TH-1 (0-6")	Soluble	Solid	DI Leach	
880-33915-11 MS	TH-4 (5')	Soluble	Solid	DI Leach	
880-33915-11 MSD	TH-4 (5')	Soluble	Solid	DI Leach	
nalysis Batch: 64045	i				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-1	TH-1 (0-6")	Soluble	Solid	300.0	64003

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## Job ID: 880-33915-1 SDG: Lea Co NM

Client: Crain Environmental Project/Site: Anderson Ranch #017H

# HPLC/IC (Continued)

## Analysis Batch: 64045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33915-2	TH-1 (5')	Soluble	Solid	300.0	64003
880-33915-3	TH-1 (10')	Soluble	Solid	300.0	64003
880-33915-4	TH-2 (0-6")	Soluble	Solid	300.0	64003
380-33915-5	TH-2 (5')	Soluble	Solid	300.0	64003
380-33915-6	TH-2 (9')	Soluble	Solid	300.0	64003
380-33915-7	TH-3 (0-6")	Soluble	Solid	300.0	64003
380-33915-8	TH-3 (3')	Soluble	Solid	300.0	64003
380-33915-9	TH-3 (5')	Soluble	Solid	300.0	64003
80-33915-10	TH-4 (0-6")	Soluble	Solid	300.0	64003
380-33915-11	TH-4 (5')	Soluble	Solid	300.0	64003
380-33915-12	TH-5 (0-6")	Soluble	Solid	300.0	64003
380-33915-13	TH-5 (2.5')	Soluble	Solid	300.0	64003
MB 880-64003/1-A	Method Blank	Soluble	Solid	300.0	64003
_CS 880-64003/2-A	Lab Control Sample	Soluble	Solid	300.0	64003
_CSD 880-64003/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	64003
380-33915-1 MS	TH-1 (0-6")	Soluble	Solid	300.0	64003
380-33915-1 MSD	TH-1 (0-6")	Soluble	Solid	300.0	64003
380-33915-11 MS	TH-4 (5')	Soluble	Solid	300.0	64003
380-33915-11 MSD	TH-4 (5')	Soluble	Solid	300.0	64003

**Page 120 of 137** 

Job ID: 880-33915-1 SDG: Lea Co NM Project/Site: Anderson Ranch #017H

Client Sample ID: TH-1 (0-6")

5

9

Job ID: 880-33915-1 SDG: Lea Co NM

# Lab Sample ID: 880-33915-1 Matrix: Solid

Date Collected: 09/29/23 13:10 Date Received: 10/02/23 16:07

Client: Crain Environmental

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	64288	10/09/23 15:31	MNR	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	64326	10/10/23 16:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 16:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 01:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	63937	10/04/23 10:00	ткс	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 01:58	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		5			64045	10/06/23 08:49	СН	EET MID

# Lab Sample ID: 880-33915-2

Lab Sample ID: 880-33915-3

Matrix: Solid

Matrix: Solid

Date Collected: 09/29/23 13:15 Date Received: 10/02/23 16:07

Client Sample ID: TH-1 (5')

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	64288	10/09/23 15:31	MNR	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	64326	10/10/23 17:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 03:06	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	63937	10/04/23 10:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 03:06	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		5			64045	10/06/23 09:09	СН	EET MID

#### Client Sample ID: TH-1 (10') Date Collected: 09/29/23 13:30 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/09/23 23:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/09/23 23:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/06/23 23:41	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/06/23 23:41	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		5			64045	10/06/23 09:16	СН	EET MID

### Client Sample ID: TH-2 (0-6") Date Collected: 09/29/23 13:32 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 00:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 00:13	SM	EET MID

**Eurofins Midland** 

Released to Imaging: 10/4/2024 3:24:18 PM

Lab Sample ID: 880-33915-4 Matrix: Solid

#### Client Sample ID: TH-2 (0-6") Date Collected: 09/29/23 13:32

Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			64241	10/07/23 01:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63937	10/04/23 11:48	ткс	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 01:35	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		5			64045	10/06/23 09:22	СН	EET MID

#### Client Sample ID: TH-2 (5') Date Collected: 09/29/23 13:36 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 00:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 00:33	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 03:51	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 03:51	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		5			64045	10/06/23 09:29	СН	EET MID

## Client Sample ID: TH-2 (9')

Date Collected: 09/29/23 13:40 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 00:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 00:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 00:04	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 00:04	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		1			64045	10/06/23 10:22	CH	EET MID

#### Client Sample ID: TH-3 (0-6") Date Collected: 09/29/23 14:08 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 01:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 01:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 03:28	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 03:28	SM	EET MID

Eurofins Midland

Job ID: 880-33915-1 SDG: Lea Co NM

## Lab Sample ID: 880-33915-4 Matrix: Solid

Lab Sample ID: 880-33915-5

# Lab Sample ID: 880-33915-6

Lab Sample ID: 880-33915-7

Matrix: Solid

Matrix: Solid

Matrix: Solid

land

# Lab Chronicle

Job ID: 880-33915-1 SDG: Lea Co NM

Lab Sample ID: 880-33915-7

Lab Sample ID: 880-33915-8

# Client Sample ID: TH-3 (0-6") Date Collected: 09/29/23 14:08

Project/Site: Anderson Ranch #017H

Date Received: 10/02/23 16:07

Client: Crain Environmental

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		1			64045	10/06/23 10:29	СН	EET MID

### Client Sample ID: TH-3 (3') Date Collected: 09/29/23 14:10 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 01:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 01:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 02:43	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 02:43	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		5			64045	10/06/23 10:35	СН	EET MID

#### Client Sample ID: TH-3 (5') Date Collected: 09/29/23 14:20 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 01:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 01:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 00:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 00:26	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		1			64045	10/06/23 10:42	СН	EET MID

## Client Sample ID: TH-4 (0-6") Date Collected: 09/29/23 13:55 Date Received: 10/02/23 16:07

Lab Sample ID: 880-33915-10 Matrix: Solid

#### Batch Dil Initial Final Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 63969 Total/NA Prep 4.99 g 5 mL 10/04/23 16:36 MNR EET MID Total/NA Analysis 8021B 1 5 mL 5 mL 64254 10/10/23 02:15 MNR EET MID Total/NA Total BTEX SM Analysis 64419 10/10/23 02:15 EET MID 1 Total/NA Analysis 8015 NM 1 64241 10/07/23 01:12 SM EET MID Prep 9.90 g Total/NA ткс 8015NM Prep 10 mL 63937 10/04/23 11:48 EET MID Total/NA Analysis 8015B NM 5 1 uL 1 uL 64070 10/07/23 01:12 SM EET MID Soluble Leach DI Leach 5.02 g 50 mL 64003 10/05/23 10:21 EET MID AG Soluble Analysis 300.0 1 64045 10/06/23 10:48 СН EET MID

**Eurofins Midland** 

Matrix: Solid

Matrix: Solid

Lab Sample ID: 880-33915-9 Matrix: Solid

9

Project/Site: Anderson Ranch #017H

Batch

Туре

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Leach

Prep

Batch

Method

5035

8021B

Total BTEX

8015NM Prep

8015B NM

DI Leach

300.0

8015 NM

Client Sample ID: TH-4 (5') Date Collected: 09/29/23 14:05

Date Received: 10/02/23 16:07

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Soluble

Soluble

Client: Crain Environmental

Initial

Amount

5.02 g

5 mL

10.02 g

1 uL

4.98 g

Final

Amount

5 mL

5 mL

10 mL

1 uL

50 mL

Batch

63969

64254

64419

64241

63937

64070

64003

64045

Number

Dil

1

1

1

1

1

Factor

Run

Job ID: 880-33915-1 SDG: Lea Co NM

# Lab Sample ID: 880-33915-11

Analyst

MNR

MNR

SM

SM

ткс

SM

AG

СН

Lab Sample ID: 880-33915-12

Lab Sample ID: 880-33915-13

Prepared

or Analyzed

10/04/23 16:36

10/10/23 04:46

10/10/23 04:46

10/07/23 02:21

10/04/23 11:48

10/07/23 02:21

10/05/23 10:21

10/06/23 10:55

Matrix: Solid

Lab

EET MID

Matrix: Solid

Matrix: Solid

### Client Sample ID: TH-5 (0-6") Date Collected: 09/29/23 13:45

#### Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 05:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 05:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 04:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 04:13	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		1			64045	10/06/23 11:15	СН	EET MID

#### Client Sample ID: TH-5 (2.5') Date Collected: 09/29/23 13:50 Date Received: 10/02/23 16:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63969	10/04/23 16:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64254	10/10/23 05:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64419	10/10/23 05:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			64241	10/07/23 04:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	63937	10/04/23 11:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64070	10/07/23 04:34	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64003	10/05/23 10:21	AG	EET MID
Soluble	Analysis	300.0		1			64045	10/06/23 11:22	СН	EET MID

#### Laboratory References:

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

Authority       Program       Identification Number       Expiration Date         Texas       NELAP       T104704400-23-26       66-30-24         The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.         Analysis Method       Prep Method       Matrix       Analyte         8015 NM       Solid       Total TPH         Total BTEX       Solid       Total BTEX	boratory: Eurofins	Midland					
Texas     NELAP     T104704400-23-26     06-30-24       The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.     Analysis Method     Prep Method     Matrix     Analyte       8015 NM     Verp Method     Solid     Total TPH			vered under each accredit	tation/certification below.			
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 MethodPrep MethodMatrixAnalyte8015 NMSolidTotal TPH	uthority	Program	n	Identification Number	Expiration Date		
for which the agency does not offer certification.     Matrix     Analysis Method       Analysis Method     Prep Method     Matrix       8015 NM     Solid     Total TPH	xas	NELAP		T104704400-23-26	06-30-24	_	Ī
Analysis Method     Prep Method     Matrix     Analyte       8015 NM     Solid     Total TPH	• ,		the laboratory is not certif	ied by the governing authority. This lis	t may include analytes		
8015 NM     Solid     Total TPH			Matrix	Analyte			
Total BTEX Solid Total BTEX							
	Total BTEX		Solid	Total BTEX			

# **Method Summary**

#### Client: Crain Environmental Project/Site: Anderson Ranch #017H

Job ID: 880-33915-1 SDG: Lea Co NM

lethod	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
otal BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
800.0	Anions, Ion Chromatography	EPA	EET MID
6035	Closed System Purge and Trap	SW846	EET MID
015NM Prep	Microextraction	SW846	EET MID
0I Leach	Deionized Water Leaching Procedure	ASTM	EET MID
EPA = US	\STM International Environmental Protection Agency "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Ec	lition, November 1986 And Its Updates.	
TAL SOP	= TestAmerica Laboratories, Standard Operating Procedure		
Laboratory R			
EET MID	= Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Laboratory References:

# Sample Summary

Client: Crain Environmental Project/Site: Anderson Ranch #017H

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Job ID: 880-33915-1 SDG: Lea Co NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-33915-1	TH-1 (0-6")	Solid	09/29/23 13:10	10/02/23 16:07	0-6"
880-33915-2	TH-1 (5')	Solid	09/29/23 13:15	10/02/23 16:07	5'
880-33915-3	TH-1 (10')	Solid	09/29/23 13:30	10/02/23 16:07	10'
880-33915-4	TH-2 (0-6")	Solid	09/29/23 13:32	10/02/23 16:07	0-6"
880-33915-5	TH-2 (5')	Solid	09/29/23 13:36	10/02/23 16:07	5'
880-33915-6	TH-2 (9')	Solid	09/29/23 13:40	10/02/23 16:07	9'
880-33915-7	TH-3 (0-6")	Solid	09/29/23 14:08	10/02/23 16:07	0-6"
880-33915-8	TH-3 (3')	Solid	09/29/23 14:10	10/02/23 16:07	3'
880-33915-9	TH-3 (5')	Solid	09/29/23 14:20	10/02/23 16:07	5'
880-33915-10	TH-4 (0-6")	Solid	09/29/23 13:55	10/02/23 16:07	0-6"
880-33915-11	TH-4 (5')	Solid	09/29/23 14:05	10/02/23 16:07	5'
880-33915-12	TH-5 (0-6")	Solid	09/29/23 13:45	10/02/23 16:07	0-6"
880-33915-13	TH-5 (2.5')	Solid	09/29/23 13:50	10/02/23 16:07	2.5'

	vironment Test nco	ng	Midlan EL Pa	ston, TX d  TX (43 so, TX (9	(281) 24( 2) 704-5 15) 585-:	of Cus 0-4200, Dallas 440, San Antor 3443 Lubbock 7550, Carlsbac	TX (214) nio, TX (2 , TX (806)	902-0300 10) 509-333 794-1296					Work	88		5 Chain c		
Project Manager Cinety C	rain		Bill to: (if differen		0	hris la	r de			1				/w.xenc		Page		of _ <u>~</u>
	vironmental	9			n	-	1		· · · · · ·							mments		
Address: 29,25 C	17th St.		Company Name	2:	1VC	-	rerg	<u>/</u>			Program				Brow	wnfields 🗌	RRC	Superfund
City, State ZIP· DApps		1	Address.		3/		Vall			-	State of				<b>.</b>			
ear out	TX 797Ko		City, State ZIP			Nand,	TX	797	701	-				_				Level IV
	1-1244	Email	Cindy.	Crai	<u>n (</u>	gmai	1 60	$\underline{m}$		]	Delivera	ables	EDD		ADaP	РТ []	Other	
Project Name Anderson	Rach # 017H		Around		<u> </u>			AN	ALYSIS REQ	UES	ят					Pres	ervative	Codes
Project Number		Routine	Rush	Pres. Code												None NC		OI Water H₂O
Project Location Lea Co.		Due Date <sup>.</sup>	10/9/23													Cool Cool		- MeOH Me
Sampler's Name: Cindy C			day received by	7												HCL. HC		-INO 3 HN
PO #		the lab, if rec	eived by 4:30pm													H <sub>2</sub> S0 4 H 2	2	NaOH Na
SAMPLE RECEIPT TERRE BI	ank: Yes No	Wet Ice	Yes No	Parameters	7										1	H₃PO ₄. HI	Р	
	No Thermometer	ID•	JR	aram	ON5 M	<u> </u> Ŋ										NaHSO ₄	NABIS	
	(N/A) Correction Fac	ctor	-:30	Å	0	TEX Jarides	1 1					1		ļ		Na 2S 2O3	NaSO 3	
Sample Custody Seals: Yes No	V/A Temperature	Reading	5.7		8	2 K										Zn Acetat	e+NaOH	Zn
Total Containers.	Corrected Ter	nperature:	IS.Y	_	\$	5 Jan										NaOH+As	corbic Aci	d SAPC
Sample Identification	Matrix Date Sampled	Time Sampled	Depth Grab/ Comp		12	63										Sam	iple Com	ments
TH-1 (0-6")	5 964963	1310	0.6" C	1	$\bigtriangledown$			1							+			
TH-1 (51)		1315	5'1	T	Ň		1											
TH-1 (10)		1330	10'		K		2											
TH-2 (0-6")			0.6"		۴Ż						┣──┼				+	-		
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Revised Date: 08/25/2020 Rev. 2020.2

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10/11/2023

Job Number: 880-33915-1 SDG Number: Lea Co NM

List Source: Eurofins Midland

# Login Sample Receipt Checklist

Client: Crain Environmental

## Login Number: 33915 List Number: 1

<6mm (1/4").

Creator: Kramer, Jessica

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

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

QUESTIONS

Action 383640

QUESTIONS	
Operator:	OGRID:
GRAND BANKS ENERGY CO	155471
10 Desta Drive	Action Number:
Midland, TX 79705	383640
	Action Type:
	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

#### QUESTIONS

Prerequisites		
Incident ID (n#)	nAPP2321553613	
Incident Name	NAPP2321553613 ANDERSON RANCH UNIT #017H BATTERY @ 30-025-00367	
Incident Type	Fire	
Incident Status	Remediation Plan Received	
Incident Well	[30-025-00367] ANDERSON RANCH UNIT #017H	

#### Location of Release Source

Please answer all the questions in this group.	
Site Name	ANDERSON RANCH UNIT #017H BATTERY
Date Release Discovered	08/01/2023
Surface Owner	State

#### Incident Details

Please answer all the questions in this group.	
Incident Type	Fire
Did this release result in a fire or is the result of a fire	Yes
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	Νο
Has this release endangered or does it have a reasonable probability of endangering public health	Νο
Has this release substantially damaged or will it substantially damage property or the environment	Νο
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

#### Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.		
Crude Oil Released (bbls) Details	Cause: Fire   Production Tank   Crude Oil   Released: 46 BBL   Recovered: 0 BBL   Lost: 46 BBL.	
Produced Water Released (bbls) Details	Cause: Fire   Water Tank   Produced Water   Released: 979 BBL   Recovered: 500 BBL   Lost: 479 BBL.	
Is the concentration of chloride in the produced water >10,000 mg/l	Yes	
Condensate Released (bbls) Details	Not answered.	
Natural Gas Vented (Mcf) Details	Not answered.	
Natural Gas Flared (Mcf) Details	Not answered.	
Other Released Details	Not answered.	
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Νο	

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

QUESTIONS, Page 2

[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

Action 383640

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**QUESTIONS** (continued) Operator: OGRID: GRAND BANKS ENERGY CO 155471 10 Desta Drive Action Number Midland, TX 79705 383640 Action Type:

QUESTIONS

Nature and Volume of Release (continued)		
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.	
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes	
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more; (2) an unauthorized release of a volume that: (a) results in a fire or is the result of a fire.	

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form

Initial Response		
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.		
The source of the release has been stopped	True	
The impacted area has been secured to protect human health and the environment	True	
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True	
All free liquids and recoverable materials have been removed and managed appropriately	True	
If all the actions described above have not been undertaken, explain why	Not answered.	
	diation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of eted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of evaluation in the follow-up C-141 submission.	
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.		
I hereby agree and sign off to the above statement	Name: Socorro Hendry Title: Regulatory Manager Email: socorro.hendry@octane-energy.com	

Date: 09/15/2024

**District I** 

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

QUESTIONS, Page 3

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Action 383640

QUESTIONS (continued)

Operator:	OGRID:
GRAND BANKS ENERGY CO	155471
10 Desta Drive	Action Number:
Midland, TX 79705	383640
	Action Type:
	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

#### QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the elease discovery date. What is the shellowest donth to groundwater beneath the group offested by the

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 100 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

#### Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date. Requesting a remediation plan approval with this submission Yes Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC. Have the lateral and vertical extents of contamination been fully delineated Yes Was this release entirely contained within a lined containment area No Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.) Chloride (EPA 300.0 or SM4500 CI B) 3160 TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M) 3770 GRO+DRO (EPA SW-846 Method 8015M) 3770 BTEX (EPA SW-846 Method 8021B or 8260B) 0.2 (EPA SW-846 Method 8021B or 8260B) Benzene 0 Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation. On what estimated date will the remediation commence 10/07/2024 On what date will (or did) the final sampling or liner inspection occur 03/10/2025 On what date will (or was) the remediation complete(d) 04/07/2025 What is the estimated surface area (in square feet) that will be reclaimed 11400 What is the estimated volume (in cubic yards) that will be reclaimed 2000 What is the estimated surface area (in square feet) that will be remediated 11400 What is the estimated volume (in cubic yards) that will be remediated 2000 These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required

District I

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

QUESTIONS, Page 4

Action 383640

Operator:	OGRID:	
GRAND BANKS ENERGY CO	155471	
10 Desta Drive	Action Number:	
Midland, TX 79705	383640	
	Action Type:	
	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

OUESTIONS (continued)

#### QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date. This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants: (Select all answers below that apply.) (Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.) Yes Which OCD approved facility will be used for off-site disposal MONUMENT SITE #15 (TNM-94-58) [fAB000000056] OR which OCD approved well (API) will be used for off-site disposal Not answered. OR is the off-site disposal site, to be used, out-of-state No OR is the off-site disposal site, to be used, an NMED facility No (Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms) Yes Which OCD approved facility will be used for on-site disposal Not answered OR which OCD approved well (API) will be used for on-site disposal 30-025-00367 ANDERSON RANCH UNIT #017H (In Situ) Soil Vapor Extraction No (In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.) No (In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.) Yes (In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.) No Ground Water Abatement pursuant to 19.15.30 NMAC No OTHER (Non-listed remedial process) No Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation 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.

5		
I	hereby agree and sign off to the above statement	Name: Socorro Hendry Title: Regulatory Manager Email: socorro.hendry@octane-energy.com Date: 09/15/2024
The	The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to	

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 5

Action 383640

QUESTIONS (continued)		
Operator: GRAND BANKS ENERGY CO 10 Desta Drive Midland, TX 79705	OGRID: 155471 Action Number: 383640	
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

#### QUESTIONS

Deferral Requests Only				
ly answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.				
Requesting a deferral of the remediation closure due date with the approval of this submission	Νο			

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

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Action 383640

QUESTIONS (continued)				
Operator: GRAND BANKS ENERGY CO 10 Desta Drive Midland, TX 79705	OGRID: 155471 Action Number: 383640			
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)			
QUESTIONS				
Sampling Event Information				

Last sampling notification (C-141N) recorded

{Unavailable.}

#### Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

No

Requesting a remediation closure approval with this submission

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

CONDITIONS	

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Action 383640

Operator: OGRID: GRAND BANKS ENERGY CO 155471 10 Desta Drive Action Number: Midland, TX 79705 383640 Action Type:

[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

#### CONDITIONS

	Created By	Condition	Condition Date
F	nvelez	The remediation plan is approved as written. Grand Banks Energy has 90-days (January 2, 2025) to submit to OCD its appropriate or final remediation closure report.	10/4/2024

CONDITIONS