

Incident ID	nAPP2302639601
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>>100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

Form C-141

State of New Mexico

Page 4

Oil Conservation Division

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

Printed Name: Heather Woods Title: EHS SpecialistSignature:  Date: 04/03/2023email: Heather.Woods@whiptailmidstream.com Telephone: (505) 512-9797**OCD Only**Received by: Jocelyn Harimon Date: 04/04/2023

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Closure

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

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

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Heather Woods Title: EHS Specialist
Signature:  Date: 04/03/2023
email: Heather.Woods@whiptailmidstream.com Telephone: (505) 512-9797

OCD Only

Received by: Jocelyn Harimon Date: 04/04/2023

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

Closure Approved by:  Date: 04/11/2023
Printed Name: Nelson Velez Title: Environmental Specialist – Adv



March 30, 2023

New Mexico Oil Conservation Division

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

Re: Remediation Report and Closure Request

Gathering Pipeline Release - Chaco 147H
San Juan County, New Mexico
Whiptail Midstream, LLC
NMOCD Incident No: nAPP2302639601

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Whiptail Midstream, LLC (Whiptail), presents this *Remediation Report and Closure Request* for a release from a gathering pipeline at the Chaco 147H production well (Site), which is operated by Enduring Resources, LLC. The Site is located on federal land managed by the Bureau of Land Management (BLM) in Unit I, Section 16, Township 23 North, Range 8 West, in San Juan County, New Mexico (Figure 1). The work described in this report was performed to address petroleum hydrocarbon impacted soil originating from a release of crude oil from a valve body on the gathering pipeline. Based on the remediation activities performed and laboratory analytical results from soil confirmation samples, Whiptail is requesting closure and no further action for Incident Number nAPP2302639601.

SITE BACKGROUND

On January 25, 2023, Whiptail personnel discovered crude oil originating from a failed O-ring on a valve body on a crude oil gathering pipeline. The pipeline was immediately shut in. Whiptail estimated that approximately 10 barrels (bbls) of crude oil sprayed, then pooled on the nearby ground surface. The crude oil mixed with melting snow, resulting in oily water flowing off pad and ultimately into an unnamed dry wash southwest of the well pad for approximately 350 feet. Berms were constructed to limit downstream migration of the pooled liquid and a vacuum truck was dispatched to recover fluids. In total, approximately 60 bbls of oily water mixture was recovered from the release path, of which 10 bbls are estimated to be oil originating from the release with the remainder melted snow water. As part of emergency response actions to prevent further downstream migration of the oily water, Whiptail excavated the top 1 to 2 feet of saturated soil along the release footprint. Whiptail reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on January 26, 2023 (Appendix A). The release was assigned Incident Number nAPP2302639601. Additionally, Ensolum submitted a Report of Undesirable Event to the BLM on January 26, 2023.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

As part of the site investigation, local geology/hydrogeology and nearby sensitive receptors were assessed in accordance with Title 19, Chapter 15, Part 29, Sections 11 and 12 (19.15.29.11 and 12) of the New Mexico Administrative Code (NMAC). Geology at the Site is the Paleocene

Nacimiento Formation. In the report titled "Hydrogeology and Water Resources of San Juan Basin, New Mexico" (Stone, et. al., 1983), the Nacimiento Formation is characterized by various lithologies including interbedded black, carbonaceous mudstones and white, coarse-grained sandstones in the lower Formation, and mudstone and sandstone in the upper Formation. This Formation ranges in thickness from 418 feet to 2,232 feet. Stone and others state that though no aquifer tests are available for the Nacimiento Formation, but transmissivities of up to 100 square feet per day may be expected in some of the coarser, more continuous sandstone bodies. Where sufficient yield is present, the primary use of water from this Formation is for domestic and/or livestock supply. The Nacimiento Formation is underlain by the Ojo Alamo Formation.

The release affected a portion of a significant watercourse. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake (Figure 1). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs), based on a New Mexico Office of the State Engineer (NMOSE) water well SJ-03978 POD1, located approximately ½-mile southeast of the Site and 50 feet lower in elevation. The recorded depth to water on the NMOSE database permit is 260 feet bgs (Appendix B). No wellhead protection areas, springs, or domestic/stock wells are located within a ½-mile of the Site. There are no wetlands within 300 feet of the Site. The Site is not within a 100-year floodplain, overlying a subsurface mine, or located within an area underlain by unstable geology (area designated as low potential karst by the BLM). Schools, hospitals, institutions, churches, and/or other occupied permanent residence or structures are not located within 300 feet of the Site.

Based on the information presented above and in accordance with the *Table I, Closure Criteria for Soils Impacted by a Release* (19.15.29.12 of the NMAC), the following NMOCD Table I Closure Criteria are applied to the Site based on the proximity to a significant watercourse:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH) as a combination of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO): 100 mg/kg
- Chloride: 600 mg/kg

EXCAVATION AND SOIL SAMPLING ACTIVITIES

On January 28, 2023, Ensolum personnel mapped the emergency response excavation extent utilizing a handheld Global Positioning System (GPS) and conducted a preliminary assessment of the release footprint. Additional soil removal was recommended and Ensolum and Whiptail requested a variance from the NMOCD to collect confirmation soil samples at a frequency of one 5-point composite sample per 1,000 square feet. In any instance where those soil samples exceed the NMOCD Table I Closure Criteria, the subsequent samples would be collected at a frequency of one sample per 500 square feet. The variance was approved by the NMOCD via email on February 8, 2023. Sampling notifications and variance requests submitted to the NMOCD are attached as Appendix A.

Additional excavation, field screening, and soil sampling were performed between February 2 and February 10, 2023. To direct excavation activities, Ensolum personnel field screened soil for volatile organic compounds (VOCs) using a calibrated photoionization detector (PID). The release extent was divided into individual sampling areas representing no more than 1,000-square feet from which five-point composite soil samples were collected. Due to the shallow nature of the excavation in several areas (less than 2 feet in depth), shallow sidewall areas were incorporated into the composite floor samples. Where sidewalls exceeded 2 feet in depth, separate composite sidewall samples were collected representing no more than one sample per 1,000 square feet. If



laboratory analytical results from sidewall and/or floor samples exceeded the NMOCD Table I Closure Criteria, additional soil was removed from that area and a subsequent sample representing the newly exposed area was collected at a frequency of one sample per no more than 500 square feet. All excavation confirmation samples submitted for laboratory analysis are depicted on Figure 2.

The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 6 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. All samples were submitted for analyses of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH following EPA Method 8015M/D; and chloride following EPA Method 300.0.

The excavation was completed to depths ranging between 1 and 5 feet bgs to the lateral extent depicted in Figure 2. In total, approximately 3,254 cubic yards of soil were removed from the Site and transported for disposal at the Envirotech Landfarm in San Juan County, New Mexico. Following the remediation activities, Whiptail backfilled where appropriate and recontoured the affected areas.

RESULTS

Laboratory analytical results indicate all final confirmation samples were in compliance with the NMOCD Table I Closure Criteria. Analytical results are summarized in Table 1, with complete laboratory reports attached as Appendix C. Photographs taken by Ensolum during the excavation and by Whiptail after backfilling are included in Appendix D.

CLOSURE REQUEST

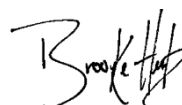
Excavation of impacted soil was conducted to address the release of crude oil that occurred on January 25, 2023. Laboratory analytical results for soil samples collected from the final excavation extent indicated that all concentrations of BTEX, TPH, and chloride were compliant with the NMOCD Table I Closure Criteria and the reclamation requirement for the top four feet of soil off-pad, and no further remediation is required. Whiptail has backfilled the excavation on the well pad and adjacent slope with clean material and recontoured the Site and wash to match pre-existing conditions. Excavation of impacted soil has mitigated impacts at this Site and these remedial actions are protective of human health, the environment, and groundwater. As such, Whiptail respectfully requests closure for Incident Number nAPP2302639601.

Sincerely,

ENSOLUM, LLC



Reece Hanson
Staff Geologist
(970) 210-9803
rhanson@ensolum.com



Brooke Herb
Senior Geologist
(970) 403-6824
bherb@ensolum.com



Attachments:

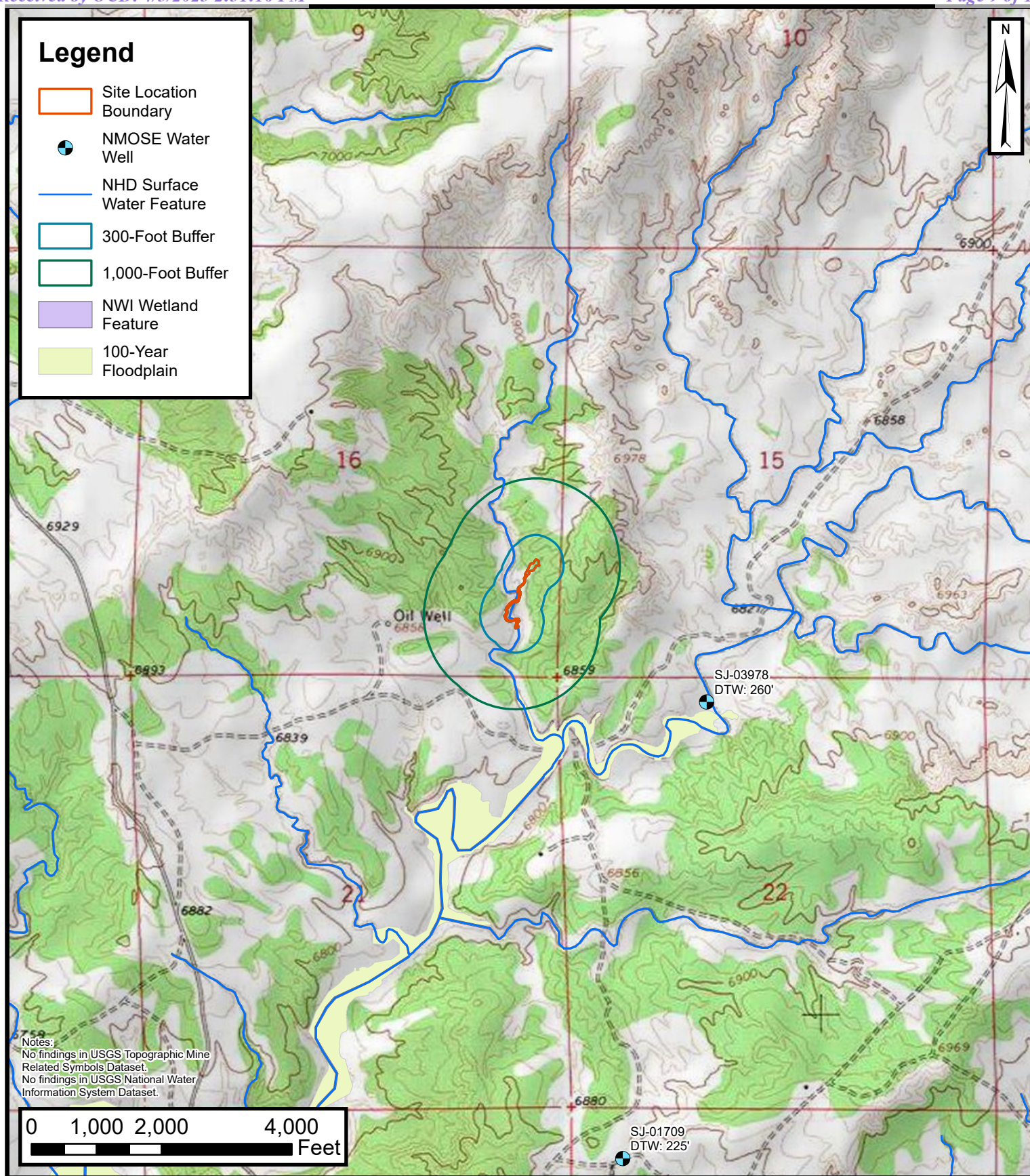
Figure 1:	Site Location Map
Figure 2:	Excavation Soil Sample Locations
Table 1:	Soil Sample Analytical Results
Appendix A:	NMOCD Correspondence
Appendix B:	NMOSE Well Summary
Appendix C:	Laboratory Analytical Reports
Appendix D:	Photographic Log

REFERENCES

Stone, W., Lyford, F., Frenzel, P., Mizell, N., & Padgett, E. (1983). Hydrogeology and Water Resources of San Juan Basin, New Mexico. New Mexico Bureau of Mines & Mineral Resources.



FIGURES



Site Location Map

Chaco 147H
 Whiptail Midstream, LLC
 36.22369, -107.67921
 NE/SE & SE/SE, SEC 16, T23N, R8W
 San Juan County, New Mexico

FIGURE
1



Excavation Soil Sample Locations

Chaco 147H
Whiptail Midstream, LLC
36.22369, -107.67921
NE/SE & SE/SE, SEC 16, T23N, R8W
San Juan County, New Mexico

FIGURE
2





TABLE



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Chaco 147H
 Whiptail Midstream, LLC
 San Juan County, New Mexico

Sample Identification	Date	Depth (feet)	PID Measurement (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria			NE	10	NE	NE	NE	50	NE	NE	NE	100	600
FS-01B	2/3/2023	2-3	58.2	<0.022	<0.044	<0.044	<0.087	<0.087	<4.4	<9.9	<49	<49	<60
FS-02	2/2/2023	2-3.5	116	<0.020	<0.040	<0.040	<0.080	<0.080	<4.0	15	<48	15	<60
FS-03B	2/2/2023	2-3	14	<0.019	<0.038	<0.038	<0.076	<0.076	<3.8	<9.6	<48	<48	<60
FS-04B	2/2/2023	2-3	24.7	<0.018	<0.037	<0.037	<0.073	<0.073	<3.7	<9.5	<47	<47	<60
FS-05	2/2/2023	2-3.5	85	<0.0078	<0.016	<0.016	<0.031	<0.031	<1.6	15	<49	15	<60
FS-06	2/2/2023	2-3	82.5	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	30	<48	30	<60
FS-07	2/2/2023	2-3	28.8	<0.021	<0.042	<0.042	<0.083	<0.083	<4.2	13	<50	13	<60
FS-08B	2/3/2023	2-3.5	0.1	<0.020	<0.039	<0.039	<0.079	<0.079	<3.9	<9.9	<49	<49	<60
FS-09B	2/3/2023	2-3	4.2	<0.020	<0.039	<0.039	<0.079	<0.079	<3.9	12	<48	12	<60
FS-10B	2/3/2023	2-3	18.5	<0.018	<0.037	<0.037	<0.074	<0.074	<3.7	11	<47	11	<60
FS-11B	2/3/2023	2-4	0.6	<0.023	<0.045	<0.045	<0.090	<0.090	<4.5	11	<47	11	<60
FS-12	2/2/2023	2-3.5	132	<0.021	<0.042	<0.042	<0.084	<0.084	<4.2	11	<49	11	<60
FS-13	2/2/2023	2-3.5	110	<0.023	<0.045	<0.045	<0.090	<0.090	<4.5	22	<50	22	<60
FS-14B	2/3/2023	2-4	1.5	<0.017	<0.034	<0.034	<0.068	<0.068	<3.4	12	<47	12	<60
FS-15B	2/3/2023	3-4.5	4.2	<0.020	<0.039	<0.039	<0.078	<0.078	<3.9	120	56	176	<60
FS-15C*	2/7/2023	3.5-5	3.3	<0.017	<0.035	<0.035	<0.070	<0.070	<3.5	<15	<49	<49	<60
FS-16B	2/8/2023	2-4	72.6	<0.040	<0.081	<0.081	<0.16	<0.16	<8.1	40	<50	40	<60
FS-17B	2/8/2023	3-4	16.6	<0.023	<0.046	<0.046	<0.092	<0.092	<4.6	14	<46	14	<60
FS-18B	2/8/2023	3-4	4.4	<0.019	<0.038	<0.038	<0.075	<0.075	<3.8	<14	<48	<48	<60
FS-19B	2/7/2023	2-4	2	<0.017	<0.035	<0.035	<0.070	<0.070	<3.5	<14	<45	<45	<60
FS-20B	2/7/2023	1-3.5	2	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<13	<44	<44	<60
FS-21B	2/7/2023	1-2	82	<0.023	<0.045	<0.045	<0.091	<0.091	<4.5	120	60	180	<60
FS-21E*	2/10/2023	2.5-3.5	45	<0.017	<0.035	<0.035	<0.069	<0.069	<3.5	<10	<50	<50	<60
FS-21W*	2/10/2023	2.5-3.5	23	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<9.7	<49	<49	<60
FS-22B	2/7/2023	1-2	14.9	<0.018	<0.036	<0.036	<0.072	<0.072	<3.6	<15	<49	<49	<60
FS-23B	2/7/2023	2-4	7	<0.022	<0.044	<0.044	<0.089	<0.089	<4.4	17	<45	17	<59
FS-24B	2/8/2023	1-2	0.6	<0.020	<0.039	<0.039	<0.078	<0.078	<3.9	<14	<48	<48	<60
FS-25B	2/8/2023	2-4	1.8	<0.022	<0.045	<0.045	<0.090	<0.090	<4.5	<14	<46	<46	<60
FS-26B	2/7/2023	2	22	<0.020	<0.040	<0.040	<0.080	<0.080	<4.0	82	<48	82	<60
FS-27B	2/8/2023	1.5-2	7.7	<0.020	<0.041	<0.041	<0.081	<0.081	<4.1	20	<49	20	<60
FS-28B	2/8/2023	2	85.4	<0.072	<0.14	<0.14	0.47	0.47	18	280	89	387	<60
FS-28E*	2/10/2023	3	42	<0.017	<0.035	<0.035	<0.070	<0.070	<3.5	<9.5	<47	<47	<60
FS-28W*	2/10/2023	3	15	<0.017	<0.034	<0.034	<0.069	<0.069	<3.4	<9.6	<48	<48	<60
FS-29B	2/8/2023	2	17.3	<0.016	<0.031	<0.031	<0.063	<0.063	<3.1	<14	<46	<46	<60
FS-30	2/8/2023	0-0.5	1.5	<0.028	<0.056	<0.056	<0.11	<0.11	<5.6	16	<48	16	<60



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Chaco 147H
 Whiptail Midstream, LLC
 San Juan County, New Mexico

Sample Identification	Date	Depth (feet)	PID Measurement (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria			NE	10	NE	NE	NE	50	NE	NE	NE	100	600
SW-01	2/3/2023	0-3.5	10.6	<0.023	<0.046	<0.046	<0.091	<0.091	<4.6	11	<46	11	<60
SW-02	2/3/2023	0-4	19.5	<0.023	<0.046	<0.046	<0.092	<0.092	<4.6	14	<49	14	<60
SW-03	2/3/2023	0-4	6.3	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	96	54	150	<61
SW-03S*	2/7/2023	0-3.5	0.8	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<14	<48	<48	<60
SW-03N*	2/7/2023	0-4	0.3	<0.021	<0.041	<0.041	<0.082	<0.082	<4.1	20	<49	20	<60
SW-04	2/3/2023	0-4	9.7	<0.020	<0.039	<0.039	<0.078	<0.078	<3.9	10	<47	10	<60
SW-05	2/3/2023	0-3.5	6.7	<0.022	<0.044	<0.044	<0.088	<0.088	<4.4	23	<49	23	<60
SW-06	2/3/2023	0-3.5	5	<0.019	<0.039	<0.039	<0.077	<0.077	<3.9	13	<49	13	<60
SW-07	2/8/2023	0-4	2.1	<0.020	<0.041	<0.041	<0.082	<0.082	<4.1	<13	<43	<43	<60
SW-08	2/8/2023	0-4	1	<0.021	<0.043	<0.043	<0.086	<0.086	<4.3	17	<49	17	<60
SW-09	2/8/2023	0-2	1.6	<0.019	<0.037	<0.037	<0.074	<0.074	<3.7	29	<47	29	<60
SW-10	2/10/2023	0-3	57	<0.017	<0.034	<0.034	<0.069	<0.069	<3.4	<9.9	<49	<49	<60

Notes:

bgs: below ground surface

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

mg/kg: milligrams per kilogram

NA: Not Analyzed

NE: Not Established

NMOCD: New Mexico Oil Conservation Division

PID: Photoionization Detector

PPM: Parts Per Million

* denotes re-sampling area representing no more than 500 square feet

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

MRO: Motor Oil/Lube Oil Range Organics

TPH: Total Petroleum Hydrocarbon

<0.037: indicates result less than the stated laboratory reporting limit (RL)

Concentrations in **bold** and shaded exceed the New Mexico Oil Conservation Division Table 1 Closure Criteria for Soils Impacted by a Release

Samples in Gray and strikethrough text indicate samples have been excavated and re-sampled



APPENDIX A

NMOCD Correspondance

From: [Brooke Herb](#)
To: [Landon, Sherrie C](#); [Velez, Nelson, EMNRD](#)
Cc: [Don Wichburg](#)
Subject: Release Notification
Date: Thursday, January 26, 2023 12:35:00 PM
Attachments: [Signed Initial C-141 Chaco 147H Release.pdf](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Whiptail Midstream discovered a crude oil pipeline release yesterday January 25, 2023, at 14:00 near the Chaco 147H (36.223692°, -107.679210°). The release was estimated to be 10 bbls of crude oil and approximately 8 bbls were recovered via vac truck. The release went off pad and reached a small wash to the southwest of the facility. The wash was bermed to prevent further migration. The ROW states that cultural resources are not present within the immediate project area. Sherrie, I will follow up this email with a phone call to further discuss remediation of the undisturbed area.

A NOR and initial C-141 have been submitted to the NMOCD portal. The release was assigned incident number nAPP2302639601. The initial C-141 is attached to this email.

Thank you,
Brooke



Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC



From: [Brooke Herb](#)
To: [Velez, Nelson, EMNRD](#); [Landon, Sherrie C](#); [Adeloye, Abiodun A](#); [Enviro, OCD, EMNRD](#)
Cc: [Don Wicburg](#); [Cody Boyd](#); [Buck Allison](#)
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request
Date: Friday, February 10, 2023 1:04:00 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Nelson,

Based on additional field screening results collected today, Ensolum requests a variance to 19.15.29.12D (1a) NMAC in order to collect additional confirmation soil samples today, February 10, 2023.

Please let me know if you have any questions or concerns.

Thank you,

Brooke



Brooke Herb

Senior Geologist

970-403-6824

Ensolum, LLC

in f 

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

Sent: Wednesday, February 8, 2023 9:58 AM

To: Brooke Herb <bherb@ensolum.com>; Landon, Sherrie C <slandon@blm.gov>; Adeloye, Abiodun A <aadeloye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Cc: Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd <cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>

Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

[**EXTERNAL EMAIL**]

Brooke,

Thank you for the notice. Your variance request specifically addressing 19.15.29.12D (1a) NMAC is approved.

If an OCD representative is not on-site on the date &/or time given, please sample per 19.15.29 NMAC. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

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



From: Brooke Herb <bherb@ensolum.com>
Sent: Wednesday, February 8, 2023 9:47 AM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Landon, Sherrie C <slandon@blm.gov>; Adeloye, Abiodun A <aadeloye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd <cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Ensolum on behalf of Whiptail would like to again request a variance to the 48-hour notification period required per 19.15.29.12D (1A). We are requesting a variance in order to conduct additional confirmation soil sampling today starting at noon.

Based on field screening and site conditions, sampling may progress daily for the next couple of days. I will keep you informed as it does.

Please let me know if you have questions or concerns.

Thank you,

Brooke



Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC
in f t

From: Brooke Herb
Sent: Monday, February 6, 2023 2:13 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Landon, Sherrie C <slandon@blm.gov>; Adeloye, Abiodun A <aadeloye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd <cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Ensolum on behalf of Whiptail would like to request a variance to the 48-hour notification period required per 19.15.29.12D paragraph 1A. We are requesting a variance in order to conduct additional confirmation soil sampling tomorrow at 10 AM.

Please let me know if you have questions or concerns.
Thank you,
Brooke

**Brooke Herb**

Senior Geologist

970-403-6824

Ensolum, LLC

in f 

From: Brooke Herb**Sent:** Thursday, February 2, 2023 2:07 PM**To:** Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Landon, Sherrie C <slandon@blm.gov>;
Adeloye, Abiodun A <aadeloye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>**Cc:** Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd
<cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>**Subject:** RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Ensolum on behalf of Whiptail requests a variance to the 48-hour notification period required per 19.15.29.12D paragraph 1A. Based on the site conditions today additional sampling is required. We are requesting a variance in order to conduct confirmation soil sampling tomorrow at 10 AM. Please let me know if you have questions or concerns.

Thank you,
Brooke

**Brooke Herb**

Senior Geologist

970-403-6824

Ensolum, LLC

in f 

From: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>**Sent:** Tuesday, January 31, 2023 1:41 PM**To:** Brooke Herb <bherb@ensolum.com>; Landon, Sherrie C <slandon@blm.gov>; Adeloye, Abiodun
A <aadeloye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>**Cc:** Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd
<cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>**Subject:** RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

[**EXTERNAL EMAIL**]

Brooke,

Thank you for the notice. If an OCD representative is not on-site on the date &/or time given, please proceed with your sampling according to the next paragraph. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

Based on the surface conditions which the release flow traveled and the action taken by Whiptail's in terminating further down gradient movement, your variance request specifically addressing 19.15.29.12D (1c) NMAC is approved under the conditions mentioned within your email below.

Please re-evaluate the quantity loss of the release provided to OCD thus far. In addition, please submit the sampling area map/diagram/schematic to OCD prior to Thursday's sampling event.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Regards

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



From: Brooke Herb <bherb@ensolum.com>

Sent: Tuesday, January 31, 2023 10:45 AM

To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Landon, Sherrie C <slandon@blm.gov>; Adeloye, Abiodun A <aadeloye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Cc: Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd <cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>

Subject: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

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

On behalf of Whiptail Midstream, Ensolum is submitting this notification to perform closure soil sampling at the Chaco 147H Release (nAPP2302639601, 36.223692°, -107.679210°) on Thursday February 2, 2023, at 10:45 AM. We would like to request a sampling variance to collect 5-point composite samples every 1,000 square feet. If analytical results exceed the closure criteria in any of the 1,000-square foot areas, after additional remediation, additional samples will be collected at a

500 square foot interval. I will follow up with an attachment of the proposed 1,000 square foot sampling areas shortly.

Please let me know if you have any questions.

Thank you,

Brooke Herb



Brooke Herb

Senior Geologist

970-403-6824

Ensolum, LLC

in f 

From: [Brooke Herb](#)
To: [Adeloye, Abiodun A](#); [Culp, Robert L](#)
Cc: [Buck Allison](#); [Landon, Sherrie C](#)
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request
Date: Thursday, February 9, 2023 2:48:00 PM
Attachments: [image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)

Thank you for the quick response.
Brooke



Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC
in f t

From: Adeloye, Abiodun A <aadeloye@blm.gov>
Sent: Thursday, February 9, 2023 2:45 PM
To: Brooke Herb <bherb@ensolum.com>; Culp, Robert L <rculp@blm.gov>
Cc: Buck Allison <buck.allison@whiptailmidstream.com>; Landon, Sherrie C <slandon@blm.gov>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

[**EXTERNAL EMAIL**]

Hi, Brooke, Bob is okay with the Whiptail using the dirt as shown in the pictures. Please know that Whiptail would be responsible for any noxious weeds treatments in the future as a result of the new disturbance associated with this remediation.
Please let me know if have any questions.
Thank you.

Abiodun Adeloye (Emmanuel), NRS

*Bureau of Land Management
Farmington Field Office
6251 College Blvd., Suite A
Farmington, NM 87402
Office Phone: 505-564-7665
Cell Phone: 505-635-0984*

From: Brooke Herb <bherb@ensolum.com>
Sent: Thursday, February 9, 2023 2:28 PM
To: Adeloye, Abiodun A <aadeloye@blm.gov>; Culp, Robert L <rculp@blm.gov>
Cc: Buck Allison <buck.allison@whiptailmidstream.com>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Please see the photos below and let me know if you have any questions or concerns with Whiptail using

this material for backfill.
Thanks,
Brooke







Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC
in f t

From: Adeloye, Abiodun A <aadeloye@blm.gov>

Sent: Thursday, February 9, 2023 8:51 AM

To: Brooke Herb <bherb@ensolum.com>; Culp, Robert L <rculp@blm.gov>

Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

[****EXTERNAL EMAIL****]

Hi, Brooke, can you please send the picture of the area where the dirt would be pulled from to Bob. Maybe the township, range, section, and quart/quart/ Long/Lat any information that might make it easier to help you out.

Thank you.

Abiodun Adeloye (Emmanuel), NRS

Bureau of Land Management

Farmington Field Office

6251 College Blvd., Suite A

Farmington, NM 87402
Office Phone: 505-564-7665
Cell Phone: 505-635-0984

From: Brooke Herb <bherb@ensolum.com>
Sent: Wednesday, February 8, 2023 1:25 PM
To: Adeloye, Abiodun A <aadeloye@blm.gov>; Culp, Robert L <rculp@blm.gov>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Bob,
Do you have any additional questions or concerns about the backfill. I believe they will be ready to start backfilling in the next day or so.
Thank you, Brooke



Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC
in f t

From: Adeloye, Abiodun A <aadeloye@blm.gov>
Sent: Monday, February 6, 2023 2:31 PM
To: Brooke Herb <bherb@ensolum.com>; Culp, Robert L <rculp@blm.gov>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

[**EXTERNAL EMAIL**]

Thanks Brooke, Hopefully, the information is enough for Bob to help with the work.

Abiodun Adeloye (Emmanuel), NRS

*Bureau of Land Management
Farmington Field Office
6251 College Blvd., Suite A
Farmington, NM 87402
Office Phone: 505-564-7665
Cell Phone: 505-635-0984*

From: Brooke Herb <bherb@ensolum.com>
Sent: Monday, February 6, 2023 2:05 PM
To: Adeloye, Abiodun A <aadeloye@blm.gov>; Culp, Robert L <rculp@blm.gov>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Sorry I missed your call earlier. The backfill is being sourced from excess native soil from pad development in the northwest quarter of the northwest quarter of Section 34, T24N, R9W.
Please feel free to call with any questions.

Thanks,
Brooke



Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC
in f t

From: Adeloye, Abiodun A <aadeloye@blm.gov>
Sent: Monday, February 6, 2023 11:27 AM
To: Brooke Herb <bherb@ensolum.com>; Culp, Robert L <rculp@blm.gov>
Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

[**EXTERNAL EMAIL**]

Hi, Brooke, thanks for the information. I would like to know exactly where the material would be taken from for the backfilling. The Township, Range, Section, quart/quart, and name if possible. BLM would like to know if the location is free of noxious weeds. I have included Bob Culp the Range Specialist for the area with this reply.

Please let me know if you have any questions.

Thank you.

Abiodun Adeloye (Emmanuel), NRS

Bureau of Land Management

Farmington Field Office

6251 College Blvd., Suite A

Farmington, NM 87402

Office Phone: 505-564-7665

Cell Phone: 505-635-0984

From: Brooke Herb <bherb@ensolum.com>
Sent: Friday, February 3, 2023 3:38 PM
To: Adeloye, Abiodun A <aadeloye@blm.gov>
Cc: Landon, Sherrie C <slandon@blm.gov>; Don Wicburg <don.wicburg@whiptailmidstream.com>
Subject: FW: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Emmanuel,

Attached is a remediation work plan for the Chaco 147H. Please let me know if you have any questions.

Thanks,
Brooke

Brooke Herb
Senior Geologist
970-403-6824



Ensolum, LLC
in f

From: Brooke Herb

Sent: Thursday, February 2, 2023 2:07 PM

To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Landon, Sherrie C <slandon@blm.gov>; Adeleye, Abiodun A <aadeleye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Cc: Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd <cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>

Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

Ensolum on behalf of Whiptail requests a variance to the 48-hour notification period required per 19.15.29.12D paragraph 1A. Based on the site conditions today additional sampling is required. We are requesting a variance in order to conduct confirmation soil sampling tomorrow at 10 AM.

Please let me know if you have questions or concerns.

Thank you,

Brooke



Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC
in f

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

Sent: Tuesday, January 31, 2023 1:41 PM

To: Brooke Herb <bherb@ensolum.com>; Landon, Sherrie C <slandon@blm.gov>; Adeleye, Abiodun A <aadeleye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Cc: Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd <cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>

Subject: RE: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

[**EXTERNAL EMAIL**]

Brooke,

Thank you for the notice. If an OCD representative is not on-site on the date &/or time given, please proceed with your sampling according to the next paragraph. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

Based on the surface conditions which the release flow traveled and the action taken by Whiptail's in terminating further down gradient movement, your variance request specifically addressing 19.15.29.12D (1c) NMAC is approved under the conditions mentioned within your email below.

Please re-evaluate the quantity loss of the release provided to OCD thus far. In addition, please submit the sampling area map/diagram/schematic to OCD prior to Thursday's sampling event.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Regards

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



From: Brooke Herb <bherb@ensolum.com>
Sent: Tuesday, January 31, 2023 10:45 AM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Landon, Sherrie C <slandon@blm.gov>;
Adeloye, Abiodun A <aadeloye@blm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Don Wicburg <don.wicburg@whiptailmidstream.com>; Cody Boyd
<cody.boyd@whiptailmidstream.com>; Buck Allison <buck.allison@whiptailmidstream.com>
Subject: [EXTERNAL] Chaco 147H Sampling Notification and Variance Request

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

On behalf of Whiptail Midstream, Ensolum is submitting this notification to perform closure soil sampling at the Chaco 147H Release (nAPP2302639601, 36.223692°, -107.679210°) on Thursday February 2, 2023, at 10:45 AM. We would like to request a sampling variance to collect 5-point composite samples every 1,000 square feet. If analytical results exceed the closure criteria in any of the 1,000-square foot areas, after additional remediation, additional samples will be collected at a 500 square foot interval. I will follow up with an attachment of the proposed 1,000 square foot sampling areas shortly.

Please let me know if you have any questions.

Thank you,

Brooke Herb



Brooke Herb
Senior Geologist
970-403-6824
Ensolum, LLC
in f t




APPENDIX B

NMOSE Well Summary



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)			
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	SJ 03978 POD1	1	2	1	22	23N	08W	259816	4011541 
<hr/>									
Driller License: 1357		Driller Company:		BAILEY DRILLING COMPANY					
Driller Name: MARK BAILEY									
Drill Start Date: 08/01/2011		Drill Finish Date:		08/12/2011		Plug Date:			
Log File Date: 08/31/2011		PCW Rev Date:				Source:		Shallow	
Pump Type:		Pipe Discharge Size:				Estimated Yield:		4 GPM	
Casing Size: 7.88		Depth Well:		500 feet		Depth Water:		260 feet	
<hr/>									
Water Bearing Stratifications:				Top	Bottom	Description			
				240	260	Sandstone/Gravel/Conglomerate			
				400	440	Sandstone/Gravel/Conglomerate			
<hr/>									
Casing Perforations:				Top	Bottom				
				0	500				
<hr/>									

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

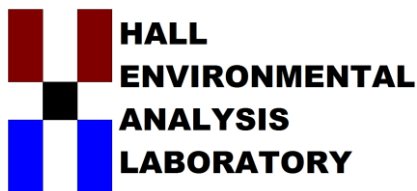
3/30/23 1:57 PM

POINT OF DIVERSION SUMMARY



APPENDIX C

Laboratory Analytical Reports



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

February 10, 2023

Brooke Herb

ENSOLUM

606 S. Rio Grande Suite A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Chaco 147H

OrderNo.: 2302205

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 21 sample(s) on 2/4/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-02

Project: Chaco 147H

Collection Date: 2/2/2023 11:18:00 AM

Lab ID: 2302205-001

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 12:10:52 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	15	9.7		mg/Kg	1	2/6/2023 9:41:56 AM	73006
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/6/2023 9:41:56 AM	73006
Surr: DNOP	96.8	69-147		%Rec	1	2/6/2023 9:41:56 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	2/4/2023 11:22:00 AM	GS9442
Surr: BFB	104	37.7-212		%Rec	1	2/4/2023 11:22:00 AM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/4/2023 11:22:00 AM	BS94421
Toluene	ND	0.040		mg/Kg	1	2/4/2023 11:22:00 AM	BS94421
Ethylbenzene	ND	0.040		mg/Kg	1	2/4/2023 11:22:00 AM	BS94421
Xylenes, Total	ND	0.080		mg/Kg	1	2/4/2023 11:22:00 AM	BS94421
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	2/4/2023 11:22:00 AM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Page 1 of 28

Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-05

Project: Chaco 147H

Collection Date: 2/2/2023 11:28:00 AM

Lab ID: 2302205-002

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 12:48:07 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	15	9.7		mg/Kg	1	2/6/2023 9:52:33 AM	73006
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/6/2023 9:52:33 AM	73006
Surr: DNOP	86.2	69-147		%Rec	1	2/6/2023 9:52:33 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	1.6		mg/Kg	1	2/4/2023 11:42:00 AM	GS9442
Surr: BFB	105	37.7-212		%Rec	1	2/4/2023 11:42:00 AM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.0078		mg/Kg	1	2/4/2023 11:42:00 AM	BS94421
Toluene	ND	0.016		mg/Kg	1	2/4/2023 11:42:00 AM	BS94421
Ethylbenzene	ND	0.016		mg/Kg	1	2/4/2023 11:42:00 AM	BS94421
Xylenes, Total	ND	0.031		mg/Kg	1	2/4/2023 11:42:00 AM	BS94421
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	2/4/2023 11:42:00 AM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-06

Project: Chaco 147H

Collection Date: 2/2/2023 11:48:00 AM

Lab ID: 2302205-003

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 1:25:21 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	30	9.7		mg/Kg	1	2/6/2023 10:06:10 AM	73006
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/6/2023 10:06:10 AM	73006
Surr: DNOP	91.5	69-147		%Rec	1	2/6/2023 10:06:10 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/4/2023 12:02:00 PM	GS9442
Surr: BFB	106	37.7-212		%Rec	1	2/4/2023 12:02:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	2/4/2023 12:02:00 PM	BS94421
Toluene	ND	0.048		mg/Kg	1	2/4/2023 12:02:00 PM	BS94421
Ethylbenzene	ND	0.048		mg/Kg	1	2/4/2023 12:02:00 PM	BS94421
Xylenes, Total	ND	0.097		mg/Kg	1	2/4/2023 12:02:00 PM	BS94421
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	2/4/2023 12:02:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-07

Project: Chaco 147H

Collection Date: 2/2/2023 11:53:00 AM

Lab ID: 2302205-004

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 1:37:45 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	13	9.9		mg/Kg	1	2/6/2023 10:16:48 AM	73006
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/6/2023 10:16:48 AM	73006
Surr: DNOP	95.0	69-147		%Rec	1	2/6/2023 10:16:48 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	2/4/2023 12:22:00 PM	GS9442
Surr: BFB	110	37.7-212		%Rec	1	2/4/2023 12:22:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.021		mg/Kg	1	2/4/2023 12:22:00 PM	BS94421
Toluene	ND	0.042		mg/Kg	1	2/4/2023 12:22:00 PM	BS94421
Ethylbenzene	ND	0.042		mg/Kg	1	2/4/2023 12:22:00 PM	BS94421
Xylenes, Total	ND	0.083		mg/Kg	1	2/4/2023 12:22:00 PM	BS94421
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	2/4/2023 12:22:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-12

Project: Chaco 147H

Collection Date: 2/2/2023 12:03:00 PM

Lab ID: 2302205-005

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 2:14:58 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	11	9.9		mg/Kg	1	2/6/2023 10:27:24 AM	73006
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/6/2023 10:27:24 AM	73006
Surr: DNOP	93.6	69-147		%Rec	1	2/6/2023 10:27:24 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	2/4/2023 12:41:00 PM	GS9442
Surr: BFB	103	37.7-212		%Rec	1	2/4/2023 12:41:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.021		mg/Kg	1	2/4/2023 12:41:00 PM	BS94421
Toluene	ND	0.042		mg/Kg	1	2/4/2023 12:41:00 PM	BS94421
Ethylbenzene	ND	0.042		mg/Kg	1	2/4/2023 12:41:00 PM	BS94421
Xylenes, Total	ND	0.084		mg/Kg	1	2/4/2023 12:41:00 PM	BS94421
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	2/4/2023 12:41:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-13

Project: Chaco 147H

Collection Date: 2/2/2023 12:06:00 PM

Lab ID: 2302205-006

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 2:27:22 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	22	9.9		mg/Kg	1	2/6/2023 10:38:02 AM	73006
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/6/2023 10:38:02 AM	73006
Surr: DNOP	92.6	69-147		%Rec	1	2/6/2023 10:38:02 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	2/4/2023 1:01:00 PM	GS9442
Surr: BFB	101	37.7-212		%Rec	1	2/4/2023 1:01:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	2/4/2023 1:01:00 PM	BS94421
Toluene	ND	0.045		mg/Kg	1	2/4/2023 1:01:00 PM	BS94421
Ethylbenzene	ND	0.045		mg/Kg	1	2/4/2023 1:01:00 PM	BS94421
Xylenes, Total	ND	0.090		mg/Kg	1	2/4/2023 1:01:00 PM	BS94421
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	2/4/2023 1:01:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-03B

Project: Chaco 147H

Collection Date: 2/2/2023 2:36:00 PM

Lab ID: 2302205-007

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 2:39:46 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	2/6/2023 10:48:41 AM	73006
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/6/2023 10:48:41 AM	73006
Surr: DNOP	93.3	69-147		%Rec	1	2/6/2023 10:48:41 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	2/4/2023 1:21:00 PM	GS9442
Surr: BFB	104	37.7-212		%Rec	1	2/4/2023 1:21:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.019		mg/Kg	1	2/4/2023 1:21:00 PM	BS94421
Toluene	ND	0.038		mg/Kg	1	2/4/2023 1:21:00 PM	BS94421
Ethylbenzene	ND	0.038		mg/Kg	1	2/4/2023 1:21:00 PM	BS94421
Xylenes, Total	ND	0.076		mg/Kg	1	2/4/2023 1:21:00 PM	BS94421
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	2/4/2023 1:21:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-04B

Project: Chaco 147H

Collection Date: 2/2/2023 2:40:00 PM

Lab ID: 2302205-008

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 2:52:11 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	2/6/2023 10:59:24 AM	73006
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/6/2023 10:59:24 AM	73006
Surr: DNOP	89.2	69-147		%Rec	1	2/6/2023 10:59:24 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	2/4/2023 1:41:00 PM	GS9442
Surr: BFB	102	37.7-212		%Rec	1	2/4/2023 1:41:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.018		mg/Kg	1	2/4/2023 1:41:00 PM	BS94421
Toluene	ND	0.037		mg/Kg	1	2/4/2023 1:41:00 PM	BS94421
Ethylbenzene	ND	0.037		mg/Kg	1	2/4/2023 1:41:00 PM	BS94421
Xylenes, Total	ND	0.073		mg/Kg	1	2/4/2023 1:41:00 PM	BS94421
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	2/4/2023 1:41:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-08B

Project: Chaco 147H

Collection Date: 2/3/2023 10:07:00 AM

Lab ID: 2302205-009

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 3:04:36 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/6/2023 11:10:03 AM	73006
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/6/2023 11:10:03 AM	73006
Surr: DNOP	91.7	69-147		%Rec	1	2/6/2023 11:10:03 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	2/4/2023 2:01:00 PM	GS9442
Surr: BFB	104	37.7-212		%Rec	1	2/4/2023 2:01:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/4/2023 2:01:00 PM	BS94421
Toluene	ND	0.039		mg/Kg	1	2/4/2023 2:01:00 PM	BS94421
Ethylbenzene	ND	0.039		mg/Kg	1	2/4/2023 2:01:00 PM	BS94421
Xylenes, Total	ND	0.079		mg/Kg	1	2/4/2023 2:01:00 PM	BS94421
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	2/4/2023 2:01:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-09B

Project: Chaco 147H

Collection Date: 2/3/2023 10:10:00 AM

Lab ID: 2302205-010

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 3:17:00 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	12	9.5		mg/Kg	1	2/6/2023 11:20:44 AM	73006
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/6/2023 11:20:44 AM	73006
Surr: DNOP	91.3	69-147		%Rec	1	2/6/2023 11:20:44 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	2/4/2023 2:21:00 PM	GS9442
Surr: BFB	106	37.7-212		%Rec	1	2/4/2023 2:21:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/4/2023 2:21:00 PM	BS94421
Toluene	ND	0.039		mg/Kg	1	2/4/2023 2:21:00 PM	BS94421
Ethylbenzene	ND	0.039		mg/Kg	1	2/4/2023 2:21:00 PM	BS94421
Xylenes, Total	ND	0.079		mg/Kg	1	2/4/2023 2:21:00 PM	BS94421
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	2/4/2023 2:21:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-10B

Project: Chaco 147H

Collection Date: 2/3/2023 1:20:00 PM

Lab ID: 2302205-011

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 3:29:24 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	11	9.3		mg/Kg	1	2/6/2023 10:18:55 AM	73006
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/6/2023 10:18:55 AM	73006
Surr: DNOP	110	69-147		%Rec	1	2/6/2023 10:18:55 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	2/4/2023 3:00:00 PM	GS9442
Surr: BFB	98.9	37.7-212		%Rec	1	2/4/2023 3:00:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.018		mg/Kg	1	2/4/2023 3:00:00 PM	BS94421
Toluene	ND	0.037		mg/Kg	1	2/4/2023 3:00:00 PM	BS94421
Ethylbenzene	ND	0.037		mg/Kg	1	2/4/2023 3:00:00 PM	BS94421
Xylenes, Total	ND	0.074		mg/Kg	1	2/4/2023 3:00:00 PM	BS94421
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	2/4/2023 3:00:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-11B

Project: Chaco 147H

Collection Date: 2/3/2023 10:13:00 AM

Lab ID: 2302205-012

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 3:41:48 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	11	9.5		mg/Kg	1	2/6/2023 10:32:45 AM	73006
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/6/2023 10:32:45 AM	73006
Surr: DNOP	112	69-147		%Rec	1	2/6/2023 10:32:45 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	2/4/2023 3:20:00 PM	GS9442
Surr: BFB	101	37.7-212		%Rec	1	2/4/2023 3:20:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	2/4/2023 3:20:00 PM	BS94421
Toluene	ND	0.045		mg/Kg	1	2/4/2023 3:20:00 PM	BS94421
Ethylbenzene	ND	0.045		mg/Kg	1	2/4/2023 3:20:00 PM	BS94421
Xylenes, Total	ND	0.090		mg/Kg	1	2/4/2023 3:20:00 PM	BS94421
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	2/4/2023 3:20:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-14B

Project: Chaco 147H

Collection Date: 2/3/2023 10:15:00 AM

Lab ID: 2302205-013

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 3:54:12 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	12	9.5		mg/Kg	1	2/6/2023 10:46:34 AM	73006
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/6/2023 10:46:34 AM	73006
Surr: DNOP	110	69-147		%Rec	1	2/6/2023 10:46:34 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	2/4/2023 3:40:00 PM	GS9442
Surr: BFB	105	37.7-212		%Rec	1	2/4/2023 3:40:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.017		mg/Kg	1	2/4/2023 3:40:00 PM	BS94421
Toluene	ND	0.034		mg/Kg	1	2/4/2023 3:40:00 PM	BS94421
Ethylbenzene	ND	0.034		mg/Kg	1	2/4/2023 3:40:00 PM	BS94421
Xylenes, Total	ND	0.068		mg/Kg	1	2/4/2023 3:40:00 PM	BS94421
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	2/4/2023 3:40:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-15B

Project: Chaco 147H

Collection Date: 2/3/2023 10:18:00 AM

Lab ID: 2302205-014

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 4:06:37 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	120	9.8		mg/Kg	1	2/6/2023 10:59:56 AM	73006
Motor Oil Range Organics (MRO)	56	49		mg/Kg	1	2/6/2023 10:59:56 AM	73006
Surr: DNOP	108	69-147		%Rec	1	2/6/2023 10:59:56 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	2/4/2023 3:59:00 PM	GS9442
Surr: BFB	105	37.7-212		%Rec	1	2/4/2023 3:59:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/4/2023 3:59:00 PM	BS94421
Toluene	ND	0.039		mg/Kg	1	2/4/2023 3:59:00 PM	BS94421
Ethylbenzene	ND	0.039		mg/Kg	1	2/4/2023 3:59:00 PM	BS94421
Xylenes, Total	ND	0.078		mg/Kg	1	2/4/2023 3:59:00 PM	BS94421
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	2/4/2023 3:59:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-01B

Project: Chaco 147H

Collection Date: 2/3/2023 2:10:00 PM

Lab ID: 2302205-015

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 4:43:51 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/6/2023 11:13:22 AM	73006
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/6/2023 11:13:22 AM	73006
Surr: DNOP	112	69-147		%Rec	1	2/6/2023 11:13:22 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	2/4/2023 4:19:00 PM	GS9442
Surr: BFB	104	37.7-212		%Rec	1	2/4/2023 4:19:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.022		mg/Kg	1	2/4/2023 4:19:00 PM	BS94421
Toluene	ND	0.044		mg/Kg	1	2/4/2023 4:19:00 PM	BS94421
Ethylbenzene	ND	0.044		mg/Kg	1	2/4/2023 4:19:00 PM	BS94421
Xylenes, Total	ND	0.087		mg/Kg	1	2/4/2023 4:19:00 PM	BS94421
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	2/4/2023 4:19:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-01

Project: Chaco 147H

Collection Date: 2/3/2023 10:52:00 AM

Lab ID: 2302205-016

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 4:56:16 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	11	9.2		mg/Kg	1	2/6/2023 11:26:49 AM	73006
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/6/2023 11:26:49 AM	73006
Surr: DNOP	112	69-147		%Rec	1	2/6/2023 11:26:49 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/4/2023 4:39:00 PM	GS9442
Surr: BFB	101	37.7-212		%Rec	1	2/4/2023 4:39:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	2/4/2023 4:39:00 PM	BS94421
Toluene	ND	0.046		mg/Kg	1	2/4/2023 4:39:00 PM	BS94421
Ethylbenzene	ND	0.046		mg/Kg	1	2/4/2023 4:39:00 PM	BS94421
Xylenes, Total	ND	0.091		mg/Kg	1	2/4/2023 4:39:00 PM	BS94421
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	2/4/2023 4:39:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-02

Project: Chaco 147H

Collection Date: 2/3/2023 1:25:00 PM

Lab ID: 2302205-017

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 5:08:40 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	14	9.9		mg/Kg	1	2/6/2023 11:40:10 AM	73006
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/6/2023 11:40:10 AM	73006
Surr: DNOP	113	69-147		%Rec	1	2/6/2023 11:40:10 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/4/2023 4:58:00 PM	GS9442
Surr: BFB	105	37.7-212		%Rec	1	2/4/2023 4:58:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	2/4/2023 4:58:00 PM	BS94421
Toluene	ND	0.046		mg/Kg	1	2/4/2023 4:58:00 PM	BS94421
Ethylbenzene	ND	0.046		mg/Kg	1	2/4/2023 4:58:00 PM	BS94421
Xylenes, Total	ND	0.092		mg/Kg	1	2/4/2023 4:58:00 PM	BS94421
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	2/4/2023 4:58:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-03

Project: Chaco 147H

Collection Date: 2/3/2023 10:55:00 AM

Lab ID: 2302205-018

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	61		mg/Kg	20	2/4/2023 5:21:04 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	96	9.3		mg/Kg	1	2/6/2023 11:53:30 AM	73006
Motor Oil Range Organics (MRO)	54	46		mg/Kg	1	2/6/2023 11:53:30 AM	73006
Surr: DNOP	110	69-147		%Rec	1	2/6/2023 11:53:30 AM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/4/2023 5:18:00 PM	GS9442
Surr: BFB	110	37.7-212		%Rec	1	2/4/2023 5:18:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	2/4/2023 5:18:00 PM	BS94421
Toluene	ND	0.047		mg/Kg	1	2/4/2023 5:18:00 PM	BS94421
Ethylbenzene	ND	0.047		mg/Kg	1	2/4/2023 5:18:00 PM	BS94421
Xylenes, Total	ND	0.095		mg/Kg	1	2/4/2023 5:18:00 PM	BS94421
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	2/4/2023 5:18:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-04

Project: Chaco 147H

Collection Date: 2/3/2023 11:00:00 AM

Lab ID: 2302205-019

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 5:33:28 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	10	9.5		mg/Kg	1	2/6/2023 12:06:55 PM	73006
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/6/2023 12:06:55 PM	73006
Surr: DNOP	124	69-147		%Rec	1	2/6/2023 12:06:55 PM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	2/4/2023 5:38:00 PM	GS9442
Surr: BFB	98.7	37.7-212		%Rec	1	2/4/2023 5:38:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/4/2023 5:38:00 PM	BS94421
Toluene	ND	0.039		mg/Kg	1	2/4/2023 5:38:00 PM	BS94421
Ethylbenzene	ND	0.039		mg/Kg	1	2/4/2023 5:38:00 PM	BS94421
Xylenes, Total	ND	0.078		mg/Kg	1	2/4/2023 5:38:00 PM	BS94421
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	2/4/2023 5:38:00 PM	BS94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-05

Project: Chaco 147H

Collection Date: 2/3/2023 11:03:00 AM

Lab ID: 2302205-020

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 5:45:53 PM	73002
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	23	9.7		mg/Kg	1	2/6/2023 12:20:33 PM	73006
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/6/2023 12:20:33 PM	73006
Surr: DNOP	113	69-147		%Rec	1	2/6/2023 12:20:33 PM	73006
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	2/4/2023 5:57:00 PM	GS9442
Surr: BFB	96.6	37.7-212		%Rec	1	2/4/2023 5:57:00 PM	GS9442
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.022		mg/Kg	1	2/4/2023 5:57:00 PM	R94421
Toluene	ND	0.044		mg/Kg	1	2/4/2023 5:57:00 PM	R94421
Ethylbenzene	ND	0.044		mg/Kg	1	2/4/2023 5:57:00 PM	R94421
Xylenes, Total	ND	0.088		mg/Kg	1	2/4/2023 5:57:00 PM	R94421
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	2/4/2023 5:57:00 PM	R94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302205

Date Reported: 2/10/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-06

Project: Chaco 147H

Collection Date: 2/3/2023 11:05:00 AM

Lab ID: 2302205-021

Matrix: MEOH (SOIL)

Received Date: 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/4/2023 3:17:10 PM	73004
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	13	9.7		mg/Kg	1	2/6/2023 11:52:51 AM	73008
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/6/2023 11:52:51 AM	73008
Surr: DNOP	93.4	69-147		%Rec	1	2/6/2023 11:52:51 AM	73008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	2/4/2023 7:55:00 PM	G94421
Surr: BFB	100	37.7-212		%Rec	1	2/4/2023 7:55:00 PM	G94421
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.019		mg/Kg	1	2/4/2023 7:55:00 PM	B94421
Toluene	ND	0.039		mg/Kg	1	2/4/2023 7:55:00 PM	B94421
Ethylbenzene	ND	0.039		mg/Kg	1	2/4/2023 7:55:00 PM	B94421
Xylenes, Total	ND	0.077		mg/Kg	1	2/4/2023 7:55:00 PM	B94421
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	2/4/2023 7:55:00 PM	B94421

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302205

10-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: MB-73002	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 73002	RunNo: 94416								
Prep Date: 2/4/2023	Analysis Date: 2/4/2023	SeqNo: 3411066 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-73002	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 73002	RunNo: 94416								
Prep Date: 2/4/2023	Analysis Date: 2/4/2023	SeqNo: 3411067 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	90	110			

Sample ID: MB-73004	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 73004	RunNo: 94417								
Prep Date: 2/4/2023	Analysis Date: 2/4/2023	SeqNo: 3411174 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-73004	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 73004	RunNo: 94417								
Prep Date: 2/4/2023	Analysis Date: 2/4/2023	SeqNo: 3411175 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.4	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 22 of 28

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302205

10-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: LCS-73006	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 73006			RunNo: 94419						
Prep Date: 2/6/2023	Analysis Date: 2/6/2023			SeqNo: 3411233		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	82.4	61.9	130			
Surr: DNOP	4.7		5.000		93.5	69	147			

Sample ID: MB-73006	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 73006			RunNo: 94419						
Prep Date: 2/6/2023	Analysis Date: 2/6/2023			SeqNo: 3411235		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		89.0	69	147			

Sample ID: MB-73008	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 73008			RunNo: 94419						
Prep Date: 2/6/2023	Analysis Date: 2/6/2023			SeqNo: 3411236		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.2	69	147			

Sample ID: 2302205-001AMS	SampType: MS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: FS-02	Batch ID: 73006			RunNo: 94419						
Prep Date: 2/6/2023	Analysis Date: 2/6/2023			SeqNo: 3411563		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.3	46.73	14.59	75.0	54.2	135			
Surr: DNOP	4.6		4.673		98.2	69	147			

Sample ID: 2302205-001AMSD	SampType: MSD			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: FS-02	Batch ID: 73006			RunNo: 94419						
Prep Date: 2/6/2023	Analysis Date: 2/6/2023			SeqNo: 3411564		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.9	49.65	14.59	76.2	54.2	135	5.43	29.2	
Surr: DNOP	4.9		4.965		98.7	69	147	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 23 of 28

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302205

10-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 2302205-021AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SW-06	Batch ID: 73008	RunNo: 94419								
Prep Date: 2/6/2023	Analysis Date: 2/6/2023	SeqNo: 3411566	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.9	49.31	12.58	69.7	54.2	135			
Surr: DNOP	5.4		4.931		109	69	147			

Sample ID: 2302205-021AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SW-06	Batch ID: 73008	RunNo: 94419								
Prep Date: 2/6/2023	Analysis Date: 2/6/2023	SeqNo: 3411567	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.6	47.94	12.58	70.9	54.2	135	0.807	29.2	
Surr: DNOP	4.9		4.794		103	69	147	0	0	

Sample ID: LCS-73008	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 73008	RunNo: 94419								
Prep Date: 2/6/2023	Analysis Date: 2/6/2023	SeqNo: 3411569	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.5	61.9	130			
Surr: DNOP	4.4		5.000		88.7	69	147			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 24 of 28

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302205

10-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: R94421		RunNo: 94421							
Prep Date:	Analysis Date: 2/4/2023		SeqNo: 3411252		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		124	37.7	212			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: GS94421		RunNo: 94421							
Prep Date:	Analysis Date: 2/4/2023		SeqNo: 3411253		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		105	37.7	212			

Sample ID: 2.5UG GRO LCS 2	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: R94421		RunNo: 94421							
Prep Date:	Analysis Date: 2/4/2023		SeqNo: 3411274		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		120	37.7	212			

Sample ID: mb 2	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: G94421		RunNo: 94421							
Prep Date:	Analysis Date: 2/4/2023		SeqNo: 3411275		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		108	37.7	212			

Sample ID: 2302205-001ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-02	Batch ID: GS94421		RunNo: 94421							
Prep Date:	Analysis Date: 2/4/2023		SeqNo: 3411279		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.0	20.11	0	116	70	130			
Surr: BFB	940		804.5		116	37.7	212			

Sample ID: 2302205-001amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-02	Batch ID: GS94421		RunNo: 94421							
Prep Date:	Analysis Date: 2/4/2023		SeqNo: 3411280		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.0	20.11	0	114	70	130	2.30	20	
Surr: BFB	930		804.5		116	37.7	212	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 25 of 28

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302205

10-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 2302205-021ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SW-06	Batch ID: G94421	RunNo: 94421								
Prep Date:	Analysis Date: 2/4/2023	SeqNo: 3411281	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	3.9	19.26	0	112	70	130			
Surr: BFB	880		770.4		114	37.7	212			

Sample ID: 2302205-021amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SW-06	Batch ID: G94421	RunNo: 94421								
Prep Date:	Analysis Date: 2/4/2023	SeqNo: 3411282	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	3.9	19.26	0	109	70	130	2.97	20	
Surr: BFB	910		770.4		118	37.7	212	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302205

10-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 100ng btex lcs	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: BS94421	RunNo: 94421								
Prep Date:	Analysis Date: 2/4/2023	SeqNo: 3411487 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.5	80	120			
Toluene	0.99	0.050	1.000	0	99.3	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	70	130			

Sample ID: mb	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: BS94421	RunNo: 94421								
Prep Date:	Analysis Date: 2/4/2023	SeqNo: 3411488 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Sample ID: 100ng btex lcs	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: B94421	RunNo: 94421								
Prep Date:	Analysis Date: 2/4/2023	SeqNo: 3411509 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.99	0.050	1.000	0	98.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: mb 2	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: B94421	RunNo: 94421								
Prep Date:	Analysis Date: 2/4/2023	SeqNo: 3411510 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302205

10-Feb-23

Client: ENSOLUM

Project: Chaco 147H

Sample ID: 2302205-002ams	SampType: MS			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-05	Batch ID: BS94421			RunNo: 94421						
Prep Date:	Analysis Date: 2/4/2023			SeqNo: 3411514		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.81	0.091	0.9141	0	88.4	61.5	113			
Benzene	0.83	0.023	0.9141	0	90.4	68.8	120			
Toluene	0.87	0.046	0.9141	0	95.6	73.6	124			
Ethylbenzene	0.89	0.046	0.9141	0	96.9	72.7	129			
Xylenes, Total	2.7	0.091	2.742	0	97.2	75.7	126			
Surr: 4-Bromofluorobenzene	0.90		0.9141		98.0	70	130			

Sample ID: 2302205-002amsd	SampType: MSD			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-05	Batch ID: BS94421			RunNo: 94421						
Prep Date:	Analysis Date: 2/4/2023			SeqNo: 3411515		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.023	0.9141	0	86.8	68.8	120	4.05	20	
Toluene	0.84	0.046	0.9141	0	91.8	73.6	124	4.06	20	
Ethylbenzene	0.85	0.046	0.9141	0	92.7	72.7	129	4.42	20	
Xylenes, Total	2.6	0.091	2.742	0	93.5	75.7	126	3.89	20	
Surr: 4-Bromofluorobenzene	0.90		0.9141		98.8	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



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

Sample Log-In Check List

Client Name: ENSOLUM

Work Order Number: 2302205

RcptNo: 1

Received By: Cheyenne Cason 2/4/2023 7:50:00 AM

Completed By: Cheyenne Cason 2/4/2023 7:56:40 AM

Reviewed By: *fn* 02/04/2023

Chad

Chad

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *Chad* 2/4/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Yes	Morty		
2	1.8	Good	Yes	Morty		

Chain-of-Custody Record

Client: Ensolum, LLC

Attn: Brooke Herb

Mailing Address: 776 E 2nd Ave

Durango, CO 81301

Phone #: 970-403-6824

email or Fax#: bherb@ensolum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type) _____

Date	Time	Matrix	Sample Name	Relinquished by:	Relinquished by:
2/21/23	1118	Soil	FS-02	<u>[Signature]</u>	2/21/23 1513
	1128		FS-05		
	1148		FS-06		
	1153		FS-07		
	1203		FS-12		
	1206		FS-13		
	1208		FS-15		
	1436		FS-03B		
	1440		FS-04B		
2/23/23	1007		FS-08B		
	1010		FS-09B		
	1320		FS-10B		
Date:	Time:	Relinquished by:			
2/23/23	1513	<u>[Signature]</u>			
Date:	Time:	Relinquished by:			
2/23/23	1700	<u>[Signature]</u>			

Turn-Around Time: (2/16/23)

☐ Standard ☒ Rush Monday

Project Name: Chaco 147H

Project #:

Project Manager: Brooke Herb

bherb@ensolum.com

Sampler: Reece Hanson/Zach Myers

On Ice: ☒ Yes ☐ No Merby

of Coolers: 2 0.9-0.9Cooler Temp (including CFI): 1.8-0.1.8 (°C)

Container Type and #

Preservative Type

HEAL No.

1,402

cool

2302205

001

002

003

004

005

006

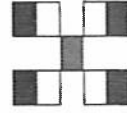
007

008

009

010

011

Received by: [Signature]Via: [Signature]Date: 2/23/23Time: 1513Received by: [Signature]Via: [Signature]Date: 2/24/23Time: 0750

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

<input checked="" type="checkbox"/> BTEX / MTBE / TMBs (8021)	<input checked="" type="checkbox"/> TPH:8015D(GRO / DRO / MRO)	<input type="checkbox"/> 8081 Pesticides/8082 PCBs	<input type="checkbox"/> EDB (Method 504.1)	<input type="checkbox"/> PAHs by 8310 or 8270SIMS	<input type="checkbox"/> RCRA 8 Metals	<input checked="" type="checkbox"/> Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	<input type="checkbox"/> 8260 (VOA)	<input type="checkbox"/> 8270 (Semi-VOA)	<input type="checkbox"/> Total Coliform (Present/Absent)
---	--	--	---	---	--	--	-------------------------------------	--	--

Remarks:

CC: chanson @ensolum.comzmyers

Chain-of-Custody Record

Client: Ensolum, LLC
Attn: Brooke Hub
Mailing Address:

Phone #:
email or Fax#: bhub@ensolum.com
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other _____
☐ EDD (Type)

Turn-Around Time:	<input type="checkbox"/> Standard	<input checked="" type="checkbox"/> Rush	(2/6/23)
Project Name:	Chaco 1471A		
Project #:			

Phone #: _____

email or Fax#: herb@ensoluna.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other _____

☐ EDD (Type) _____

Project Manager: Brooke Herb

Sampler: Rlt/2m

On Ice: ☒ Yes ☐ No Party

Cooler Temp (Including CF): $1.8 - 0 = 1.8$ ($^{\circ}\text{C}$)

Container Type and #	Preservative Type	HEAL No. 2307205
-------------------------	----------------------	---------------------

1,402	cool	012
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1	1	013
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014				
-----	--	--	--	--

1				015
---	--	--	--	-----

016			
-----	--	--	--

617					
-----	--	--	--	--	--

018				
-----	--	--	--	--

610					
-----	--	--	--	--	--

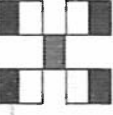
020	✓	✓
-----	---	---

120	✓	✓
-----	---	---

Received by:	Via:	Date	Time
<i>[Signature]</i>		2/2/23	15/3

Received by:	Via:	Date	Time
CMC	computer	2/14/77	0750

contracted to other accredited laboratories. This serves as notice of this



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	BTEX / MTBE / TMB's (8021)
	X	TPH:8015D(GRO / DRO / MRO)
8081 Pesticides/8082 PCB's		
EDB (Method 504.1)		
PAHs by 8310 or 8270SIMS		
RCRA 8 Metals	X	(C) F-, Br-, NO ₃ , NO ₂ , PO ₄ , SO ₄
8260 (VOA)		
8270 (Semi-VOA)		
Total Coliform (Present/Absent)		

Remarks:	
----------	--

CC: chanson
Zmayers @ensolunm.com



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

February 13, 2023

Brooke Herb
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX:

RE: Chaco 147H

OrderNo.: 2302327

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 9 sample(s) on 2/8/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-19B

Project: Chaco 147H

Collection Date: 2/7/2023 11:30:00 AM

Lab ID: 2302327-001

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 11:30:49 AM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/8/2023 12:02:22 PM	73070
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	2/8/2023 12:02:22 PM	73070
Surr: DNOP	102	69-147		%Rec	1	2/8/2023 12:02:22 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	2/8/2023 11:15:00 AM	GS94465
Surr: BFB	95.4	37.7-212		%Rec	1	2/8/2023 11:15:00 AM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.017		mg/Kg	1	2/8/2023 11:15:00 AM	BS94465
Toluene	ND	0.035		mg/Kg	1	2/8/2023 11:15:00 AM	BS94465
Ethylbenzene	ND	0.035		mg/Kg	1	2/8/2023 11:15:00 AM	BS94465
Xylenes, Total	ND	0.070		mg/Kg	1	2/8/2023 11:15:00 AM	BS94465
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	2/8/2023 11:15:00 AM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-26B

Project: Chaco 147H

Collection Date: 2/7/2023 11:35:00 AM

Lab ID: 2302327-002

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 11:43:14 AM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	82	14		mg/Kg	1	2/8/2023 12:16:01 PM	73070
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/8/2023 12:16:01 PM	73070
Surr: DNOP	103	69-147		%Rec	1	2/8/2023 12:16:01 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	2/8/2023 11:34:00 AM	GS94465
Surr: BFB	99.2	37.7-212		%Rec	1	2/8/2023 11:34:00 AM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/8/2023 11:34:00 AM	BS94465
Toluene	ND	0.040		mg/Kg	1	2/8/2023 11:34:00 AM	BS94465
Ethylbenzene	ND	0.040		mg/Kg	1	2/8/2023 11:34:00 AM	BS94465
Xylenes, Total	ND	0.080		mg/Kg	1	2/8/2023 11:34:00 AM	BS94465
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	2/8/2023 11:34:00 AM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-15C

Project: Chaco 147H

Collection Date: 2/7/2023 12:30:00 PM

Lab ID: 2302327-003

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 11:55:39 AM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	2/8/2023 12:29:36 PM	73070
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/8/2023 12:29:36 PM	73070
Surr: DNOP	98.8	69-147		%Rec	1	2/8/2023 12:29:36 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	2/8/2023 11:54:00 AM	GS94465
Surr: BFB	98.1	37.7-212		%Rec	1	2/8/2023 11:54:00 AM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.017		mg/Kg	1	2/8/2023 11:54:00 AM	BS94465
Toluene	ND	0.035		mg/Kg	1	2/8/2023 11:54:00 AM	BS94465
Ethylbenzene	ND	0.035		mg/Kg	1	2/8/2023 11:54:00 AM	BS94465
Xylenes, Total	ND	0.070		mg/Kg	1	2/8/2023 11:54:00 AM	BS94465
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	2/8/2023 11:54:00 AM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-03S

Project: Chaco 147H

Collection Date: 2/7/2023 1:50:00 PM

Lab ID: 2302327-004

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 12:08:03 PM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/8/2023 12:43:01 PM	73070
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/8/2023 12:43:01 PM	73070
Surr: DNOP	121	69-147		%Rec	1	2/8/2023 12:43:01 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/8/2023 12:14:00 PM	GS94465
Surr: BFB	97.5	37.7-212		%Rec	1	2/8/2023 12:14:00 PM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	2/8/2023 12:14:00 PM	BS94465
Toluene	ND	0.050		mg/Kg	1	2/8/2023 12:14:00 PM	BS94465
Ethylbenzene	ND	0.050		mg/Kg	1	2/8/2023 12:14:00 PM	BS94465
Xylenes, Total	ND	0.10		mg/Kg	1	2/8/2023 12:14:00 PM	BS94465
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	2/8/2023 12:14:00 PM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-03N

Project: Chaco 147H

Collection Date: 2/7/2023 1:55:00 PM

Lab ID: 2302327-005

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 12:20:27 PM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	20	15		mg/Kg	1	2/8/2023 12:56:50 PM	73070
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/8/2023 12:56:50 PM	73070
Surr: DNOP	117	69-147		%Rec	1	2/8/2023 12:56:50 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	2/8/2023 12:33:00 PM	GS94465
Surr: BFB	94.5	37.7-212		%Rec	1	2/8/2023 12:33:00 PM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.021		mg/Kg	1	2/8/2023 12:33:00 PM	BS94465
Toluene	ND	0.041		mg/Kg	1	2/8/2023 12:33:00 PM	BS94465
Ethylbenzene	ND	0.041		mg/Kg	1	2/8/2023 12:33:00 PM	BS94465
Xylenes, Total	ND	0.082		mg/Kg	1	2/8/2023 12:33:00 PM	BS94465
Surr: 4-Bromofluorobenzene	90.3	70-130		%Rec	1	2/8/2023 12:33:00 PM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-20B

Project: Chaco 147H

Collection Date: 2/7/2023 2:40:00 PM

Lab ID: 2302327-006

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 12:57:42 PM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	2/8/2023 1:10:31 PM	73070
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	2/8/2023 1:10:31 PM	73070
Surr: DNOP	118	69-147		%Rec	1	2/8/2023 1:10:31 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/8/2023 12:53:00 PM	GS94465
Surr: BFB	94.1	37.7-212		%Rec	1	2/8/2023 12:53:00 PM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	2/8/2023 12:53:00 PM	BS94465
Toluene	ND	0.048		mg/Kg	1	2/8/2023 12:53:00 PM	BS94465
Ethylbenzene	ND	0.048		mg/Kg	1	2/8/2023 12:53:00 PM	BS94465
Xylenes, Total	ND	0.095		mg/Kg	1	2/8/2023 12:53:00 PM	BS94465
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	2/8/2023 12:53:00 PM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-21B

Project: Chaco 147H

Collection Date: 2/7/2023 2:43:00 PM

Lab ID: 2302327-007

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 1:10:06 PM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	120	15		mg/Kg	1	2/8/2023 1:24:07 PM	73070
Motor Oil Range Organics (MRO)	60	50		mg/Kg	1	2/8/2023 1:24:07 PM	73070
Surr: DNOP	116	69-147		%Rec	1	2/8/2023 1:24:07 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	2/8/2023 1:13:00 PM	GS94465
Surr: BFB	116	37.7-212		%Rec	1	2/8/2023 1:13:00 PM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	2/8/2023 1:13:00 PM	BS94465
Toluene	ND	0.045		mg/Kg	1	2/8/2023 1:13:00 PM	BS94465
Ethylbenzene	ND	0.045		mg/Kg	1	2/8/2023 1:13:00 PM	BS94465
Xylenes, Total	ND	0.091		mg/Kg	1	2/8/2023 1:13:00 PM	BS94465
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	2/8/2023 1:13:00 PM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-22B

Project: Chaco 147H

Collection Date: 2/7/2023 2:48:00 PM

Lab ID: 2302327-008

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	2/8/2023 1:22:30 PM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	2/8/2023 3:27:00 PM	73070
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/8/2023 3:27:00 PM	73070
Surr: DNOP	114	69-147		%Rec	1	2/8/2023 3:27:00 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	2/8/2023 1:32:00 PM	GS94465
Surr: BFB	95.5	37.7-212		%Rec	1	2/8/2023 1:32:00 PM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.018		mg/Kg	1	2/8/2023 1:32:00 PM	BS94465
Toluene	ND	0.036		mg/Kg	1	2/8/2023 1:32:00 PM	BS94465
Ethylbenzene	ND	0.036		mg/Kg	1	2/8/2023 1:32:00 PM	BS94465
Xylenes, Total	ND	0.072		mg/Kg	1	2/8/2023 1:32:00 PM	BS94465
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	2/8/2023 1:32:00 PM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302327

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-23B

Project: Chaco 147H

Collection Date: 2/7/2023 2:51:00 PM

Lab ID: 2302327-009

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	59		mg/Kg	20	2/8/2023 1:34:54 PM	73076
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	17	13		mg/Kg	1	2/8/2023 1:51:26 PM	73070
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	2/8/2023 1:51:26 PM	73070
Surr: DNOP	113	69-147		%Rec	1	2/8/2023 1:51:26 PM	73070
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	2/8/2023 1:52:00 PM	GS94465
Surr: BFB	93.8	37.7-212		%Rec	1	2/8/2023 1:52:00 PM	GS94465
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.022		mg/Kg	1	2/8/2023 1:52:00 PM	BS94465
Toluene	ND	0.044		mg/Kg	1	2/8/2023 1:52:00 PM	BS94465
Ethylbenzene	ND	0.044		mg/Kg	1	2/8/2023 1:52:00 PM	BS94465
Xylenes, Total	ND	0.089		mg/Kg	1	2/8/2023 1:52:00 PM	BS94465
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	2/8/2023 1:52:00 PM	BS94465

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2302327
13-Feb-23

Client: ENSOLUM
Project: Chaco 147H

Sample ID: MB-73076	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 73076	RunNo: 94475
Prep Date: 2/8/2023	Analysis Date: 2/8/2023	SeqNo: 3414519 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-73076	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 73076	RunNo: 94475
Prep Date: 2/8/2023	Analysis Date: 2/8/2023	SeqNo: 3414520 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 93.8 90 110

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302327

13-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: MB-73070	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 73070	RunNo: 94476								
Prep Date: 2/8/2023	Analysis Date: 2/8/2023	SeqNo: 3413844 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		90.7	69	147			

Sample ID: LCS-73070	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 73070	RunNo: 94476								
Prep Date: 2/8/2023	Analysis Date: 2/8/2023	SeqNo: 3413845 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	15	50.00	0	119	61.9	130			
Surr: DNOP	4.4		5.000		88.1	69	147			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302327

13-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: GS94465		RunNo: 94465							
Prep Date:	Analysis Date: 2/8/2023		SeqNo: 3413467		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	116	72.3	137			
Surr: BFB	1100		1000		112	37.7	212			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: GS94465		RunNo: 94465							
Prep Date:	Analysis Date: 2/8/2023		SeqNo: 3413637		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		103	37.7	212			

Sample ID: 2302327-002ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-26B	Batch ID: GS94465		RunNo: 94465							
Prep Date:	Analysis Date: 2/8/2023		SeqNo: 3414653		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	25.00	0	119	70	130			
Surr: BFB	1200		1000		119	37.7	212			

Sample ID: 2302327-002amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-26B	Batch ID: GS94465		RunNo: 94465							
Prep Date:	Analysis Date: 2/8/2023		SeqNo: 3414654		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	70	130	10.6	20	
Surr: BFB	1100		1000		107	37.7	212	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 12 of 13

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302327

13-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 100ng btex lcs	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: BS94465			RunNo: 94465						
Prep Date:	Analysis Date: 2/8/2023			SeqNo: 3413468			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: BS94465			RunNo: 94465						
Prep Date:	Analysis Date: 2/8/2023			SeqNo: 3413638			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: 2302327-001ams	SampType: MS			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-19B	Batch ID: BS94465			RunNo: 94465						
Prep Date:	Analysis Date: 2/8/2023			SeqNo: 3414744			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.5	68.8	120			
Toluene	0.96	0.050	1.000	0	95.6	73.6	124			
Ethylbenzene	0.94	0.050	1.000	0	94.1	72.7	129			
Xylenes, Total	2.8	0.10	3.000	0	94.3	75.7	126			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	70	130			

Sample ID: 2302327-001amsd	SampType: MSD			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-19B	Batch ID: BS94465			RunNo: 94465						
Prep Date:	Analysis Date: 2/8/2023			SeqNo: 3414750			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.3	68.8	120	6.68	20	
Toluene	0.90	0.050	1.000	0	89.6	73.6	124	6.42	20	
Ethylbenzene	0.89	0.050	1.000	0	88.9	72.7	129	5.66	20	
Xylenes, Total	2.7	0.10	3.000	0	89.0	75.7	126	5.77	20	
Surr: 4-Bromofluorobenzene	0.87		1.000		87.0	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



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

Sample Log-In Check List

Client Name: ENSOLUM

Work Order Number: 2302327

RcptNo: 1

Received By: Sean Livingston 2/7/2023 5:18:00 PM

Completed By: Sean Livingston 2/8/2023 8:02:45 AM

Reviewed By: *JS* 2-8-23

Sean Livingston
Sean Livingston

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *JS* 2/8/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

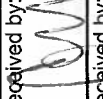
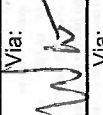

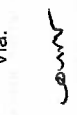
17. Cooler Information

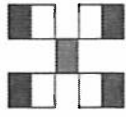
Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good	Not Present	YOGI		
2	0.7	Good	Not Present	YOGI		

Chain-of-Custody Record

Client:	ENSolum, LLC		
Mailing Address:	776 E 2nd Ave Durango, CO 81301		
Phone #:	970-463-6824		
email or Fax#:	bherb@ensolum.com		
QA/QC Package:	<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		
Accreditation:	<input type="checkbox"/> Az Compliance <input type="checkbox"/> NELAC <input type="checkbox"/> Other _____		
	<input type="checkbox"/> EDD (Type) _____		

[illegible]

Turn-Around Time: (2/8/23)		
Standard	<input checked="" type="checkbox"/> Rush ^{next day}	
Project Name: Chaco 1471+		
Project #:		
Project Manager: Brooke Hurb b.hurb@enslun.com		
Sampler: Reece Hanson		
On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1/06E	
# of Coolers: 2	0.3-0.1=0.2	
Cooler Temp (Including OF): 0.9-0.1=0.7 (°C)		
Container Type and #	Preservative Type	HEAL No.
1,402	Cool	2302327
		001
		002
		003
		004
		005
		006
		007
		008
		009
Received by: 		Via: 
Date: 2/8/23		Time: 1718
Received by: 		Via: 
Date: 2/8/23		Time: 1750



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	BTEX / MTBE / TMB's (8021)	→
	X	TPH:8015D(GRO / DRO / MRO)	→
8081 Pesticides/8082 PCB's		EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS		RCRA 8 Metals	
CI, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	X	→	
8260 (VOA)		8270 (Semi-VOA)	
Total Coliform (Present/Absent)			

Remarks:

cc: chansen@ersolunm.com



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

February 13, 2023

Brooke Herb
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX:

RE: Chaco 147H

OrderNo.: 2302429

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 12 sample(s) on 2/9/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-24B

Project: Chaco 147H

Collection Date: 2/8/2023 11:48:00 AM

Lab ID: 2302429-001

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 11:07:46 AM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/9/2023 11:40:02 AM	73100
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/9/2023 11:40:02 AM	73100
Surr: DNOP	119	69-147		%Rec	1	2/9/2023 11:40:02 AM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	2/9/2023 11:18:00 AM	GS94497
Surr: BFB	94.5	37.7-212		%Rec	1	2/9/2023 11:18:00 AM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/9/2023 11:18:00 AM	BS94497
Toluene	ND	0.039		mg/Kg	1	2/9/2023 11:18:00 AM	BS94497
Ethylbenzene	ND	0.039		mg/Kg	1	2/9/2023 11:18:00 AM	BS94497
Xylenes, Total	ND	0.078		mg/Kg	1	2/9/2023 11:18:00 AM	BS94497
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	2/9/2023 11:18:00 AM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Page 1 of 16

Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-25B

Project: Chaco 147H

Collection Date: 2/8/2023 11:53:00 AM

Lab ID: 2302429-002

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 11:20:11 AM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/9/2023 11:54:10 AM	73100
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/9/2023 11:54:10 AM	73100
Surr: DNOP	119	69-147		%Rec	1	2/9/2023 11:54:10 AM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	2/9/2023 11:38:00 AM	GS94497
Surr: BFB	102	37.7-212		%Rec	1	2/9/2023 11:38:00 AM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.022		mg/Kg	1	2/9/2023 11:38:00 AM	BS94497
Toluene	ND	0.045		mg/Kg	1	2/9/2023 11:38:00 AM	BS94497
Ethylbenzene	ND	0.045		mg/Kg	1	2/9/2023 11:38:00 AM	BS94497
Xylenes, Total	ND	0.090		mg/Kg	1	2/9/2023 11:38:00 AM	BS94497
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	2/9/2023 11:38:00 AM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-27B

Project: Chaco 147H

Collection Date: 2/8/2023 12:20:00 PM

Lab ID: 2302429-003

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 11:32:36 AM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	20	15		mg/Kg	1	2/9/2023 12:08:29 PM	73100
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/9/2023 12:08:29 PM	73100
Surr: DNOP	117	69-147		%Rec	1	2/9/2023 12:08:29 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	2/9/2023 11:57:00 AM	GS94497
Surr: BFB	102	37.7-212		%Rec	1	2/9/2023 11:57:00 AM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	2/9/2023 11:57:00 AM	BS94497
Toluene	ND	0.041		mg/Kg	1	2/9/2023 11:57:00 AM	BS94497
Ethylbenzene	ND	0.041		mg/Kg	1	2/9/2023 11:57:00 AM	BS94497
Xylenes, Total	ND	0.081		mg/Kg	1	2/9/2023 11:57:00 AM	BS94497
Surr: 4-Bromofluorobenzene	98.5	70-130		%Rec	1	2/9/2023 11:57:00 AM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-28B

Project: Chaco 147H

Collection Date: 2/8/2023 12:23:00 PM

Lab ID: 2302429-004

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 11:45:00 AM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	280	15		mg/Kg	1	2/9/2023 12:22:24 PM	73100
Motor Oil Range Organics (MRO)	89	49		mg/Kg	1	2/9/2023 12:22:24 PM	73100
Surr: DNOP	109	69-147		%Rec	1	2/9/2023 12:22:24 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	18	14		mg/Kg	5	2/9/2023 12:37:00 PM	GS94497
Surr: BFB	160	37.7-212		%Rec	5	2/9/2023 12:37:00 PM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.072		mg/Kg	5	2/9/2023 12:37:00 PM	BS94497
Toluene	ND	0.14		mg/Kg	5	2/9/2023 12:37:00 PM	BS94497
Ethylbenzene	ND	0.14		mg/Kg	5	2/9/2023 12:37:00 PM	BS94497
Xylenes, Total	0.47	0.29		mg/Kg	5	2/9/2023 12:37:00 PM	BS94497
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	5	2/9/2023 12:37:00 PM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-29B

Project: Chaco 147H

Collection Date: 2/8/2023 12:27:00 PM

Lab ID: 2302429-005

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 11:57:24 AM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/9/2023 12:36:00 PM	73100
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/9/2023 12:36:00 PM	73100
Surr: DNOP	113	69-147		%Rec	1	2/9/2023 12:36:00 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	2/9/2023 12:17:00 PM	GS94497
Surr: BFB	96.8	37.7-212		%Rec	1	2/9/2023 12:17:00 PM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.016		mg/Kg	1	2/9/2023 12:17:00 PM	BS94497
Toluene	ND	0.031		mg/Kg	1	2/9/2023 12:17:00 PM	BS94497
Ethylbenzene	ND	0.031		mg/Kg	1	2/9/2023 12:17:00 PM	BS94497
Xylenes, Total	ND	0.063		mg/Kg	1	2/9/2023 12:17:00 PM	BS94497
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	2/9/2023 12:17:00 PM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-30

Project: Chaco 147H

Collection Date: 2/8/2023 1:03:00 PM

Lab ID: 2302429-006

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 12:09:48 PM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	16	14		mg/Kg	1	2/9/2023 12:50:17 PM	73100
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/9/2023 12:50:17 PM	73100
Surr: DNOP	114	69-147		%Rec	1	2/9/2023 12:50:17 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.6		mg/Kg	1	2/9/2023 11:23:00 AM	GS94497
Surr: BFB	94.4	37.7-212		%Rec	1	2/9/2023 11:23:00 AM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.028		mg/Kg	1	2/9/2023 11:23:00 AM	BS94497
Toluene	ND	0.056		mg/Kg	1	2/9/2023 11:23:00 AM	BS94497
Ethylbenzene	ND	0.056		mg/Kg	1	2/9/2023 11:23:00 AM	BS94497
Xylenes, Total	ND	0.11		mg/Kg	1	2/9/2023 11:23:00 AM	BS94497
Surr: 4-Bromofluorobenzene	81.6	70-130		%Rec	1	2/9/2023 11:23:00 AM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-16B

Project: Chaco 147H

Collection Date: 2/8/2023 1:33:00 PM

Lab ID: 2302429-007

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 12:22:13 PM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	40	15		mg/Kg	1	2/9/2023 1:03:37 PM	73100
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/9/2023 1:03:37 PM	73100
Surr: DNOP	125	69-147		%Rec	1	2/9/2023 1:03:37 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	8.1		mg/Kg	2	2/9/2023 11:46:23 AM	GS94497
Surr: BFB	107	37.7-212		%Rec	2	2/9/2023 11:46:23 AM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.040		mg/Kg	2	2/9/2023 11:46:23 AM	BS94497
Toluene	ND	0.081		mg/Kg	2	2/9/2023 11:46:23 AM	BS94497
Ethylbenzene	ND	0.081		mg/Kg	2	2/9/2023 11:46:23 AM	BS94497
Xylenes, Total	ND	0.16		mg/Kg	2	2/9/2023 11:46:23 AM	BS94497
Surr: 4-Bromofluorobenzene	84.2	70-130		%Rec	2	2/9/2023 11:46:23 AM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-17B

Project: Chaco 147H

Collection Date: 2/8/2023 1:36:00 PM

Lab ID: 2302429-008

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 12:34:38 PM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	14	14		mg/Kg	1	2/9/2023 1:17:14 PM	73100
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/9/2023 1:17:14 PM	73100
Surr: DNOP	120	69-147		%Rec	1	2/9/2023 1:17:14 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/9/2023 12:09:52 PM	GS94497
Surr: BFB	98.3	37.7-212		%Rec	1	2/9/2023 12:09:52 PM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	2/9/2023 12:09:52 PM	BS94497
Toluene	ND	0.046		mg/Kg	1	2/9/2023 12:09:52 PM	BS94497
Ethylbenzene	ND	0.046		mg/Kg	1	2/9/2023 12:09:52 PM	BS94497
Xylenes, Total	ND	0.092		mg/Kg	1	2/9/2023 12:09:52 PM	BS94497
Surr: 4-Bromofluorobenzene	83.8	70-130		%Rec	1	2/9/2023 12:09:52 PM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-18B

Project: Chaco 147H

Collection Date: 2/8/2023 1:40:00 PM

Lab ID: 2302429-009

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 1:11:52 PM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/9/2023 1:30:59 PM	73100
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/9/2023 1:30:59 PM	73100
Surr: DNOP	122	69-147		%Rec	1	2/9/2023 1:30:59 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	2/9/2023 12:33:22 PM	GS94497
Surr: BFB	97.1	37.7-212		%Rec	1	2/9/2023 12:33:22 PM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.019		mg/Kg	1	2/9/2023 12:33:22 PM	BS94497
Toluene	ND	0.038		mg/Kg	1	2/9/2023 12:33:22 PM	BS94497
Ethylbenzene	ND	0.038		mg/Kg	1	2/9/2023 12:33:22 PM	BS94497
Xylenes, Total	ND	0.075		mg/Kg	1	2/9/2023 12:33:22 PM	BS94497
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	2/9/2023 12:33:22 PM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-07

Project: Chaco 147H

Collection Date: 2/8/2023 1:55:00 PM

Lab ID: 2302429-010

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 1:24:16 PM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	2/9/2023 1:45:01 PM	73100
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	2/9/2023 1:45:01 PM	73100
Surr: DNOP	117	69-147		%Rec	1	2/9/2023 1:45:01 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	2/9/2023 12:56:49 PM	GS94497
Surr: BFB	96.8	37.7-212		%Rec	1	2/9/2023 12:56:49 PM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.020		mg/Kg	1	2/9/2023 12:56:49 PM	BS94497
Toluene	ND	0.041		mg/Kg	1	2/9/2023 12:56:49 PM	BS94497
Ethylbenzene	ND	0.041		mg/Kg	1	2/9/2023 12:56:49 PM	BS94497
Xylenes, Total	ND	0.082		mg/Kg	1	2/9/2023 12:56:49 PM	BS94497
Surr: 4-Bromofluorobenzene	84.1	70-130		%Rec	1	2/9/2023 12:56:49 PM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-08

Project: Chaco 147H

Collection Date: 2/8/2023 2:00:00 PM

Lab ID: 2302429-011

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 1:36:41 PM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	17	15		mg/Kg	1	2/9/2023 1:58:42 PM	73100
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/9/2023 1:58:42 PM	73100
Surr: DNOP	114	69-147		%Rec	1	2/9/2023 1:58:42 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	2/9/2023 1:20:16 PM	GS94497
Surr: BFB	99.0	37.7-212		%Rec	1	2/9/2023 1:20:16 PM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.021		mg/Kg	1	2/9/2023 1:20:16 PM	BS94497
Toluene	ND	0.043		mg/Kg	1	2/9/2023 1:20:16 PM	BS94497
Ethylbenzene	ND	0.043		mg/Kg	1	2/9/2023 1:20:16 PM	BS94497
Xylenes, Total	ND	0.086		mg/Kg	1	2/9/2023 1:20:16 PM	BS94497
Surr: 4-Bromofluorobenzene	85.6	70-130		%Rec	1	2/9/2023 1:20:16 PM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302429

Date Reported: 2/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-09

Project: Chaco 147H

Collection Date: 2/8/2023 2:15:00 PM

Lab ID: 2302429-012

Matrix: MEOH (SOIL)

Received Date: 2/9/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	2/9/2023 1:49:05 PM	73097
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	29	14		mg/Kg	1	2/9/2023 2:12:36 PM	73100
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/9/2023 2:12:36 PM	73100
Surr: DNOP	108	69-147		%Rec	1	2/9/2023 2:12:36 PM	73100
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	2/9/2023 1:43:50 PM	GS94497
Surr: BFB	98.6	37.7-212		%Rec	1	2/9/2023 1:43:50 PM	GS94497
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.019		mg/Kg	1	2/9/2023 1:43:50 PM	BS94497
Toluene	ND	0.037		mg/Kg	1	2/9/2023 1:43:50 PM	BS94497
Ethylbenzene	ND	0.037		mg/Kg	1	2/9/2023 1:43:50 PM	BS94497
Xylenes, Total	ND	0.074		mg/Kg	1	2/9/2023 1:43:50 PM	BS94497
Surr: 4-Bromofluorobenzene	82.5	70-130		%Rec	1	2/9/2023 1:43:50 PM	BS94497

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2302429
13-Feb-23

Client: ENSOLUM
Project: Chaco 147H

Sample ID: MB-73097	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 73097	RunNo: 94508
Prep Date: 2/9/2023	Analysis Date: 2/9/2023	SeqNo: 3415573 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-73097	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 73097	RunNo: 94508
Prep Date: 2/9/2023	Analysis Date: 2/9/2023	SeqNo: 3415574 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	15	1.5 15.00 0 98.0 90 110

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.	

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302429

13-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: MB-73100	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 73100	RunNo: 94509								
Prep Date: 2/9/2023	Analysis Date: 2/9/2023	SeqNo: 3415382 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.1	69	147			

Sample ID: LCS-73100	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 73100	RunNo: 94509								
Prep Date: 2/9/2023	Analysis Date: 2/9/2023	SeqNo: 3415383 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	15	50.00	0	115	61.9	130			
Surr: DNOP	5.1		5.000		103	69	147			

Sample ID: 2302429-012AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SW-09	Batch ID: 73100	RunNo: 94509								
Prep Date: 2/9/2023	Analysis Date: 2/9/2023	SeqNo: 3415396 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	67	15	49.80	29.01	76.1	54.2	135			
Surr: DNOP	6.4		4.980		129	69	147			

Sample ID: 2302429-012AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SW-09	Batch ID: 73100	RunNo: 94509								
Prep Date: 2/9/2023	Analysis Date: 2/9/2023	SeqNo: 3415397 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	69	15	48.59	29.01	83.0	54.2	135	3.59	29.2	
Surr: DNOP	6.0		4.859		123	69	147	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302429

13-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: GS94497		RunNo: 94497							
Prep Date:	Analysis Date: 2/9/2023		SeqNo: 3414883		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	113	72.3	137			
Surr: BFB	1100		1000		106	37.7	212			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: GS94497		RunNo: 94497							
Prep Date:	Analysis Date: 2/9/2023		SeqNo: 3414948		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.3	37.7	212			

Sample ID: 2302429-001ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-24B	Batch ID: GS94497		RunNo: 94498							
Prep Date:	Analysis Date: 2/9/2023		SeqNo: 3416379		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	3.9	19.56	0	115	70	130			
Surr: BFB	860		782.5		110	37.7	212			

Sample ID: 2302429-001amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-24B	Batch ID: GS94497		RunNo: 94498							
Prep Date:	Analysis Date: 2/9/2023		SeqNo: 3416380		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	3.9	19.56	0	107	70	130	7.48	20	
Surr: BFB	830		782.5		107	37.7	212	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302429

13-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 100ng btex lcs	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: BS94497			RunNo: 94497						
Prep Date:	Analysis Date: 2/9/2023			SeqNo: 3414892			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.5	80	120			
Toluene	0.87	0.050	1.000	0	86.8	80	120			
Ethylbenzene	0.87	0.050	1.000	0	87.4	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.3	80	120			
Surr: 4-Bromofluorobenzene	0.85		1.000		85.4	70	130			

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: BS94497			RunNo: 94497						
Prep Date:	Analysis Date: 2/9/2023			SeqNo: 3414949			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.84		1.000		84.3	70	130			

Sample ID: 2302429-002ams	SampType: MS			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-25B	Batch ID: BS94497			RunNo: 94498						
Prep Date:	Analysis Date: 2/9/2023			SeqNo: 3416502			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.022	0.8993	0	97.6	68.8	120			
Toluene	0.89	0.045	0.8993	0	99.1	73.6	124			
Ethylbenzene	0.87	0.045	0.8993	0	97.1	72.7	129			
Xylenes, Total	2.6	0.090	2.698	0.02185	96.8	75.7	126			
Surr: 4-Bromofluorobenzene	0.82		0.8993		91.3	70	130			

Sample ID: 2302429-002amsd	SampType: MSD			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-25B	Batch ID: BS94497			RunNo: 94498						
Prep Date:	Analysis Date: 2/9/2023			SeqNo: 3416503			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.022	0.8993	0	91.3	68.8	120	6.75	20	
Toluene	0.83	0.045	0.8993	0	92.6	73.6	124	6.83	20	
Ethylbenzene	0.83	0.045	0.8993	0	92.0	72.7	129	5.46	20	
Xylenes, Total	2.5	0.090	2.698	0.02185	91.7	75.7	126	5.36	20	
Surr: 4-Bromofluorobenzene	0.81		0.8993		90.5	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



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

Sample Log-In Check List

Client Name: ENSOLUM

Work Order Number: 2302429

RcptNo: 1

Received By: Juan Rojas 2/9/2023 7:15:00 AM

Completed By: Tracy Casarrubias 2/9/2023 7:32:56 AM

Reviewed By: *JH 2-9-23*

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: *JH 2/9/23*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good	Yes	Morty		
2	1.6	Good	Yes	Morty		



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

February 16, 2023

Brooke Herb
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Chaco 147H

OrderNo.: 2302531

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/11/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2302531

Date Reported: 2/16/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-21E

Project: Chaco 147H

Collection Date: 2/10/2023 10:45:00 AM

Lab ID: 2302531-001

Matrix: MEOH (SOIL)

Received Date: 2/11/2023 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	2/13/2023 11:08:07 AM	73155
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/13/2023 11:46:28 AM	73149
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/13/2023 11:46:28 AM	73149
Surr: DNOP	93.7	69-147		%Rec	1	2/13/2023 11:46:28 AM	73149
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	2/13/2023 11:25:38 AM	GS94566
Surr: BFB	106	37.7-212		%Rec	1	2/13/2023 11:25:38 AM	GS94566
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.017		mg/Kg	1	2/13/2023 11:25:38 AM	R94566
Toluene	ND	0.035		mg/Kg	1	2/13/2023 11:25:38 AM	R94566
Ethylbenzene	ND	0.035		mg/Kg	1	2/13/2023 11:25:38 AM	R94566
Xylenes, Total	ND	0.069		mg/Kg	1	2/13/2023 11:25:38 AM	R94566
Surr: 4-Bromofluorobenzene	84.4	70-130		%Rec	1	2/13/2023 11:25:38 AM	R94566

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302531

Date Reported: 2/16/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-21W

Project: Chaco 147H

Collection Date: 2/10/2023 10:50:00 AM

Lab ID: 2302531-002

Matrix: MEOH (SOIL)

Received Date: 2/11/2023 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	2/13/2023 11:20:32 AM	73155
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/13/2023 12:18:02 PM	73149
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/13/2023 12:18:02 PM	73149
Surr: DNOP	97.4	69-147		%Rec	1	2/13/2023 12:18:02 PM	73149
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/13/2023 11:49:44 AM	GS94566
Surr: BFB	107	37.7-212		%Rec	1	2/13/2023 11:49:44 AM	GS94566
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	2/13/2023 11:49:44 AM	R94566
Toluene	ND	0.049		mg/Kg	1	2/13/2023 11:49:44 AM	R94566
Ethylbenzene	ND	0.049		mg/Kg	1	2/13/2023 11:49:44 AM	R94566
Xylenes, Total	ND	0.097		mg/Kg	1	2/13/2023 11:49:44 AM	R94566
Surr: 4-Bromofluorobenzene	85.8	70-130		%Rec	1	2/13/2023 11:49:44 AM	R94566

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302531

Date Reported: 2/16/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-28E

Project: Chaco 147H

Collection Date: 2/10/2023 12:23:00 PM

Lab ID: 2302531-003

Matrix: MEOH (SOIL)

Received Date: 2/11/2023 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	2/13/2023 11:32:57 AM	73155
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	2/13/2023 12:28:36 PM	73149
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/13/2023 12:28:36 PM	73149
Surr: DNOP	87.3	69-147		%Rec	1	2/13/2023 12:28:36 PM	73149
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	2/13/2023 12:13:51 PM	GS94566
Surr: BFB	109	37.7-212		%Rec	1	2/13/2023 12:13:51 PM	GS94566
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.017		mg/Kg	1	2/13/2023 12:13:51 PM	R94566
Toluene	ND	0.035		mg/Kg	1	2/13/2023 12:13:51 PM	R94566
Ethylbenzene	ND	0.035		mg/Kg	1	2/13/2023 12:13:51 PM	R94566
Xylenes, Total	ND	0.070		mg/Kg	1	2/13/2023 12:13:51 PM	R94566
Surr: 4-Bromofluorobenzene	87.6	70-130		%Rec	1	2/13/2023 12:13:51 PM	R94566

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302531

Date Reported: 2/16/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: FS-28W

Project: Chaco 147H

Collection Date: 2/10/2023 12:25:00 PM

Lab ID: 2302531-004

Matrix: MEOH (SOIL)

Received Date: 2/11/2023 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	2/13/2023 11:45:21 AM	73155
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	2/13/2023 12:39:32 PM	73149
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/13/2023 12:39:32 PM	73149
Surr: DNOP	89.5	69-147		%Rec	1	2/13/2023 12:39:32 PM	73149
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	2/13/2023 12:38:05 PM	GS94566
Surr: BFB	111	37.7-212		%Rec	1	2/13/2023 12:38:05 PM	GS94566
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.017		mg/Kg	1	2/13/2023 12:38:05 PM	R94566
Toluene	ND	0.034		mg/Kg	1	2/13/2023 12:38:05 PM	R94566
Ethylbenzene	ND	0.034		mg/Kg	1	2/13/2023 12:38:05 PM	R94566
Xylenes, Total	ND	0.069		mg/Kg	1	2/13/2023 12:38:05 PM	R94566
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	2/13/2023 12:38:05 PM	R94566

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302531

Date Reported: 2/16/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: SW-10

Project: Chaco 147H

Collection Date: 2/10/2023 12:28:00 PM

Lab ID: 2302531-005

Matrix: MEOH (SOIL)

Received Date: 2/11/2023 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	2/13/2023 11:57:45 AM	73155
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: mb
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/13/2023 12:50:08 PM	73149
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/13/2023 12:50:08 PM	73149
Surr: DNOP	92.5	69-147		%Rec	1	2/13/2023 12:50:08 PM	73149
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	2/13/2023 1:02:20 PM	GS94566
Surr: BFB	110	37.7-212		%Rec	1	2/13/2023 1:02:20 PM	GS94566
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Benzene	ND	0.017		mg/Kg	1	2/13/2023 1:02:20 PM	R94566
Toluene	ND	0.034		mg/Kg	1	2/13/2023 1:02:20 PM	R94566
Ethylbenzene	ND	0.034		mg/Kg	1	2/13/2023 1:02:20 PM	R94566
Xylenes, Total	ND	0.069		mg/Kg	1	2/13/2023 1:02:20 PM	R94566
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	2/13/2023 1:02:20 PM	R94566

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2302531
16-Feb-23

Client: ENSOLUM
Project: Chaco 147H

Sample ID: MB-73155	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 73155	RunNo: 94562
Prep Date: 2/13/2023	Analysis Date: 2/13/2023	SeqNo: 3419077 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-73155	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 73155	RunNo: 94562
Prep Date: 2/13/2023	Analysis Date: 2/13/2023	SeqNo: 3419078 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 95.6 90 110

Qualifiers:

- *

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of standard limits. If undiluted results may be estimated.
- B

Analyte detected in the associated Method Blank
- E

Above Quantitation Range/Estimated Value
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302531

16-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 2302531-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: FS-21E	Batch ID: 73149	RunNo: 94563								
Prep Date: 2/13/2023	Analysis Date: 2/13/2023	SeqNo: 3418327 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.4	47.04	0	96.1	54.2	135			
Surr: DNOP	4.3		4.704		90.9	69	147			

Sample ID: 2302531-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: FS-21E	Batch ID: 73149	RunNo: 94563								
Prep Date: 2/13/2023	Analysis Date: 2/13/2023	SeqNo: 3418328 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.9	49.70	0	87.5	54.2	135	3.82	29.2	
Surr: DNOP	5.1		4.970		103	69	147	0	0	

Sample ID: LCS-73149	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 73149	RunNo: 94563								
Prep Date: 2/13/2023	Analysis Date: 2/13/2023	SeqNo: 3418333 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.9	61.9	130			
Surr: DNOP	4.0		5.000		79.6	69	147			

Sample ID: MB-73149	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 73149	RunNo: 94563								
Prep Date: 2/13/2023	Analysis Date: 2/13/2023	SeqNo: 3418334 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.5		10.00		84.6	69	147			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitative Limit
 S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
 E Above Quantitation Range/Estimated Value
 J Analyte detected below quantitation limits
 P Sample pH Not In Range
 RL Reporting Limit

Page 7 of 9

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302531

16-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: GS94566		RunNo: 94566							
Prep Date:	Analysis Date: 2/13/2023		SeqNo: 3418356		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	25.00	0	118	72.3	137			
Surr: BFB	1200		1000		117	37.7	212			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: GS94566		RunNo: 94566							
Prep Date:	Analysis Date: 2/13/2023		SeqNo: 3418357		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		105	37.7	212			

Sample ID: 2302531-001ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-21E	Batch ID: GS94566		RunNo: 94566							
Prep Date:	Analysis Date: 2/13/2023		SeqNo: 3418359		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	3.5	17.32	0	122	70	130			
Surr: BFB	840		693.0		121	37.7	212			

Sample ID: 2302531-001amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: FS-21E	Batch ID: GS94566		RunNo: 94566							
Prep Date:	Analysis Date: 2/13/2023		SeqNo: 3418360		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	3.5	17.32	0	121	70	130	0.395	20	
Surr: BFB	850		693.0		122	37.7	212	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2302531

16-Feb-23

Client: ENSOLUM**Project:** Chaco 147H

Sample ID: 100ng btex lcs	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: R94566			RunNo: 94566						
Prep Date:	Analysis Date: 2/13/2023			SeqNo: 3418365		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.1	80	120			
Toluene	0.88	0.050	1.000	0	87.9	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	88.6	80	120			
Surr: 4-Bromofluorobenzene	0.88		1.000		87.8	70	130			

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: R94566			RunNo: 94566						
Prep Date:	Analysis Date: 2/13/2023			SeqNo: 3418366		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		85.6	70	130			

Sample ID: 2302531-002ams	SampType: MS			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-21W	Batch ID: R94566			RunNo: 94566						
Prep Date:	Analysis Date: 2/13/2023			SeqNo: 3419003		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.024	0.9728	0	84.1	68.8	120			
Toluene	0.84	0.049	0.9728	0.01683	84.7	73.6	124			
Ethylbenzene	0.85	0.049	0.9728	0	87.3	72.7	129			
Xylenes, Total	2.6	0.097	2.918	0.02860	86.8	75.7	126			
Surr: 4-Bromofluorobenzene	0.87		0.9728		89.3	70	130			

Sample ID: 2302531-002amsd	SampType: MSD			TestCode: EPA Method 8021B: Volatiles						
Client ID: FS-21W	Batch ID: R94566			RunNo: 94566						
Prep Date:	Analysis Date: 2/13/2023			SeqNo: 3419004		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.024	0.9728	0	83.1	68.8	120	1.12	20	
Toluene	0.83	0.049	0.9728	0.01683	83.7	73.6	124	1.15	20	
Ethylbenzene	0.85	0.049	0.9728	0	86.9	72.7	129	0.540	20	
Xylenes, Total	2.5	0.097	2.918	0.02860	86.2	75.7	126	0.591	20	
Surr: 4-Bromofluorobenzene	0.87		0.9728		89.5	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



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

Sample Log-In Check List

Client Name: ENSOLUM

Work Order Number: 2302531

RcptNo: 1

Received By: Tracy Casarrubias 2/11/2023 8:45:00 AM

Completed By: Tracy Casarrubias 2/11/2023 8:55:53 AM

Reviewed By: JR 2/13/23

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: TMC 2/11/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes	Morty		

Chain-of-Custody Record

Client: Ensolum, LLC
 Address: Brooke Herb
 Mailing Address: 776 E 2nd Ave
 Durango, CO 81301
 Phone #: 970-403-6824
 email or Fax#: bherb@ensolum.com
 QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
 Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Date	Time	Matrix	Sample Name
2/10/23	1045	Soil	FS-21E
	1050		FS-21W
	1223		FS-28E
	1225		FS-28W
	1228		SW-10

Date: 2/10/23 Time: 1059 Relinquished by: [Signature]
 Date: 2/10/23 Time: 1756 Relinquished by: [Signature]

Turn-Around Time: (2/13/23)

☐ Standard ☒ Rush Same day

Project Name: Chaco 14714

Project #:

Project Manager: Brooke Herb
bherb@ensolum.com

Sampler: Bruce Hanson

On Ice: ☒ Yes ☐ No ☐ No

of Coolers: 1

Cooler Temp (including CF): 0.8-0.2-0.6 (°C)

Container Type and #

Preservative Type

HEAL No.

1402 Cool 001

002

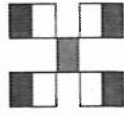
003

004

005

Received by: [Signature] Date: 2/10/23 Time: 1339

Received by: [Signature] Date: 2/11/23 Time: 8:45

HALL ENVIRONMENTAL
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

TPH:8015D(GRO/DRO/MRO)	X	8081 Pesticides/8082 PCBs		EDB (Method 504.1)		PAHs by 8310 or 8270SIMS		RCRA 8 Metals		Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
BTEX / MTBE / TMBs (6021)	X												

Remarks:

chanson@ensolum.com



APPENDIX D

Photographic Log



Photographic Log
Whiptail Midstream, LLC
Chaco 147H



Photograph: 1 Date: 2/3/2023
Description: Sample Area for FS-01B
View: South



Photograph: 2 Date: 2/2/2023
Description: Sample Area for FS-02
View: East



Photograph: 3 Date: 2/2/2023
Description: Sample Area for FS-03B
View: East



Photograph: 4 Date: 2/2/2023
Description: Sample Areas for FS-06 and FS-07
View: Southeast



Photographic Log
Whiptail Midstream, LLC
Chaco 147H



Photograph: 5 Date: 2/2/2023
Description: Sample Areas for FS-08B, FS-09B, FS-10B
View: Northeast



Photograph: 6 Date: 2/3/2023
Description: Sample Areas for FS-11B and FS-12
View: South-Southwest



Photograph: 7 Date: 2/3/2023
Description: Sample Areas for FS-13 and FS-14B
View: South



Photograph: 8 Date: 2/3/2023
Description: Sample Areas for FS-15C
View: North

**Photographic Log**

Whiptail Midstream, LLC

Chaco 147H



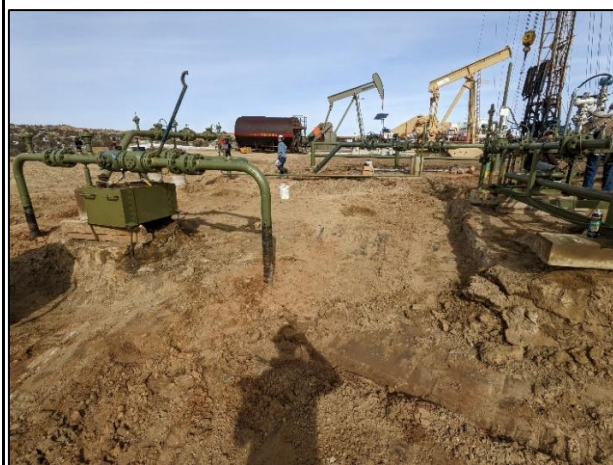
Photograph: 9 Date: 2/3/2023
Description: Sample Area for FS-16B
View: South-Southwest



Photograph: 10 Date: 2/3/2023
Description: Sample Area for FS-17B and FS-18B
View: North-Northeast



Photograph: 11 Date: 2/7/2023
Description: Sample Areas for FS19B
View: South-Southwest



Photograph: 12 Date: 2/7/2023
Description: Affected area on pad
View: North-Northwest



Photographic Log
Whiptail Midstream, LLC
Chaco 147H



Photograph: 13
Description: Sample Area 25B
View: North

Date: 2/8/2023



Photograph: 14
Description: Sample Area FS-18B and SW07
View: Northeast

Date: 2/8/2023



Photograph: 15
Description: Re-sample area FS-21E and FS-21W
View: North-northwest

Date: 2/10/2023



Photograph: 16
Description: Re-sample area FS-28E and FS-28W
View: North

Date: 2/10/2023

**Photographic Log**

Whiptail Midstream, LLC

Chaco 147H



Photograph: 17
Description: Sample Area SW-10
View: East

Date: 2/10/2023



Photograph: 18
Description: Backfilled and recontoured pad
View: North-Northwest

Date: 2/28/2023



Photograph: 19
Description: Backfilled and recontoured slope
View: Northeast

Date: 2/28/2023



Photograph: 20
Description: Recontoured wash
View: Northwest

Date: 2/28/2023

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

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

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

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

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

CONDITIONS

Action 203488

CONDITIONS

Operator: Whiptail Midstream LLC 15 West 6th Street Tulsa, OK 74119	OGRID: 373240
	Action Number: 203488
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	4/11/2023