

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NCS1929536500
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Enduring Resources	OGRID: 372286
Contact Name: James McDaniel	Contact Telephone: 505-636-9731
Contact email: jmcdaniel@enduringresources.com	Incident # (assigned by OCD) NCS1929536500
Contact mailing address: 200 Energy Court	Farmington, New Mexico 87401

Location of Release Source

Latitude 36.237665 Longitude -107.517876
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: NE Chaco COM 181H	Site Type: Wellsite
Date Release Discovered: 9/17/2019	API# (if applicable) 30-039-31250

Unit Letter	Section	Township	Range	County
L	7	23N	6W	Rio Arriba

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): 25	Volume Recovered (bbls): 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

On the afternoon of 9/17/2019, an underground line leak was discovered at this well site. A corrosion hole formed in a 'T' in the underground water dump line, and 25 bbls of produced water was released from the above ground water tank through the corrosion hole. The line was excavated and the leak stopped. Cleanup activities have been completed. Remediation Narrative is attached.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Due to a volume of 25 bbls of produced water, the spill is considered to be a major release as defined by 19.15.29.7
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Immediate notice was provided to Cory Smith, NMOCD by phone and by email on 9/18/2019. A copy of the email notification is attached to this report.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: _____	Title: _____
Signature: _____	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	
District RP	
Facility ID	
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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?

137 (ft bgs)

Did this release impact groundwater or surface water?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?

☐ Yes ☒ No

Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?

☐ Yes ☒ No

Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?

☐ Yes ☒ No

Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?

☐ Yes ☒ No

Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a wetland?

☐ Yes ☒ No

Are the lateral extents of the release overlying a subsurface mine?

☐ Yes ☒ No

Are the lateral extents of the release overlying an unstable area such as karst geology?

☐ Yes ☒ No

Are the lateral extents of the release within a 100-year floodplain?

☐ Yes ☒ No

Did the release impact areas **not** on an exploration, development, production, or storage site?

☐ Yes ☒ No

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

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

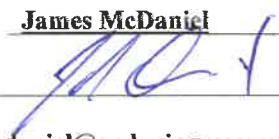
- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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Printed Name: James McDaniel Title: HSE Supervisor
Signature:  Date: 10/29/2019
email: jmcDaniel@enduringresources.com Telephone: 505-636-9731

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
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Remediation Plan

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

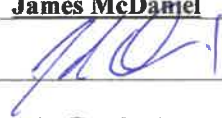
Closure

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

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

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

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

Printed Name: James McDaniel Title: HSE Supervisor
 Signature:  Date: 10/29/2019
 email: jmcDaniel@enduringresources.com Telephone: 505-636-9731

OCD Only

Received by: OCD Date: 10/29/19

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: 12/12/19
 Printed Name: Environmental Specialist Title: Environmental Specialist

NE Chaco COM 181H Remediation Narrative

9/17/2019

A release was discovered beneath the liner at the NE Chaco COM 181H. 25 bbls of produced water was released into the ground from a leaking underground flowline near the above ground water tank. The well was shut in and the leak stopped. Groundwater has been determined to be greater than 100' deep at this location, allowing for the least stringent Table I standards of 1,000 ppm TPH (DRO/GRO), 2,500 ppm TPH (DRO/GRO/MRO), 10 ppm benzene, 50 ppm total BTEX, and 20,000 ppm chlorides.

9/23/2019

Enduring HSE was on-site to excavate the impacted area and to locate the leaking line. A corrosion hole was found in an underground 'T' in the water flowline. The line was repaired and the well put back into service. The excavated area reached extents of 10' x 3' x 5' deep.

9/25/2019

Sampling notification sent to NMOCD and BLM for sampling to occur on 9/27/2019; see attached *Notification Email*.

9/27/2019

Closure sampling was performed on the excavated area, and witnessed by the BLM (Abiodun Adeloje). Five (5) closure samples were collected from the excavated area. One (1) composite sample was collected from each of the four (4) walls of the excavation, and one (1) composite sample was collected from the bottom of the excavation at five (5) foot deep. Sampling results can be referenced in the *Sample Results Table*.

10/1/2019

Sample results were received from the 9/27/2019 sampling event. All samples returned results below the Table I standards determined for this site, but the sample from the North Wall returned chloride results above 600 ppm in the top 4' at 1,390 ppm; see *Sample Results Sample*.

10/4/2019

Additional excavation was performed with a hydrovac, and approximately 2 additional feet of impacted soil was removed from the North Wall of the excavation, making the excavation extents 12' x 3' x 5' deep. A sampling notification was sent to the NMOCD and BLM for final sampling to occur on the North Wall on 10/7/2019; see attached *Sample Notification Email*.

10/7/2019

Closure sampling was performed on the new North Wall. No BLM or NMOCD staff were on-site to witness the sampling event. One (1) composite sample was collected from the North Wall.

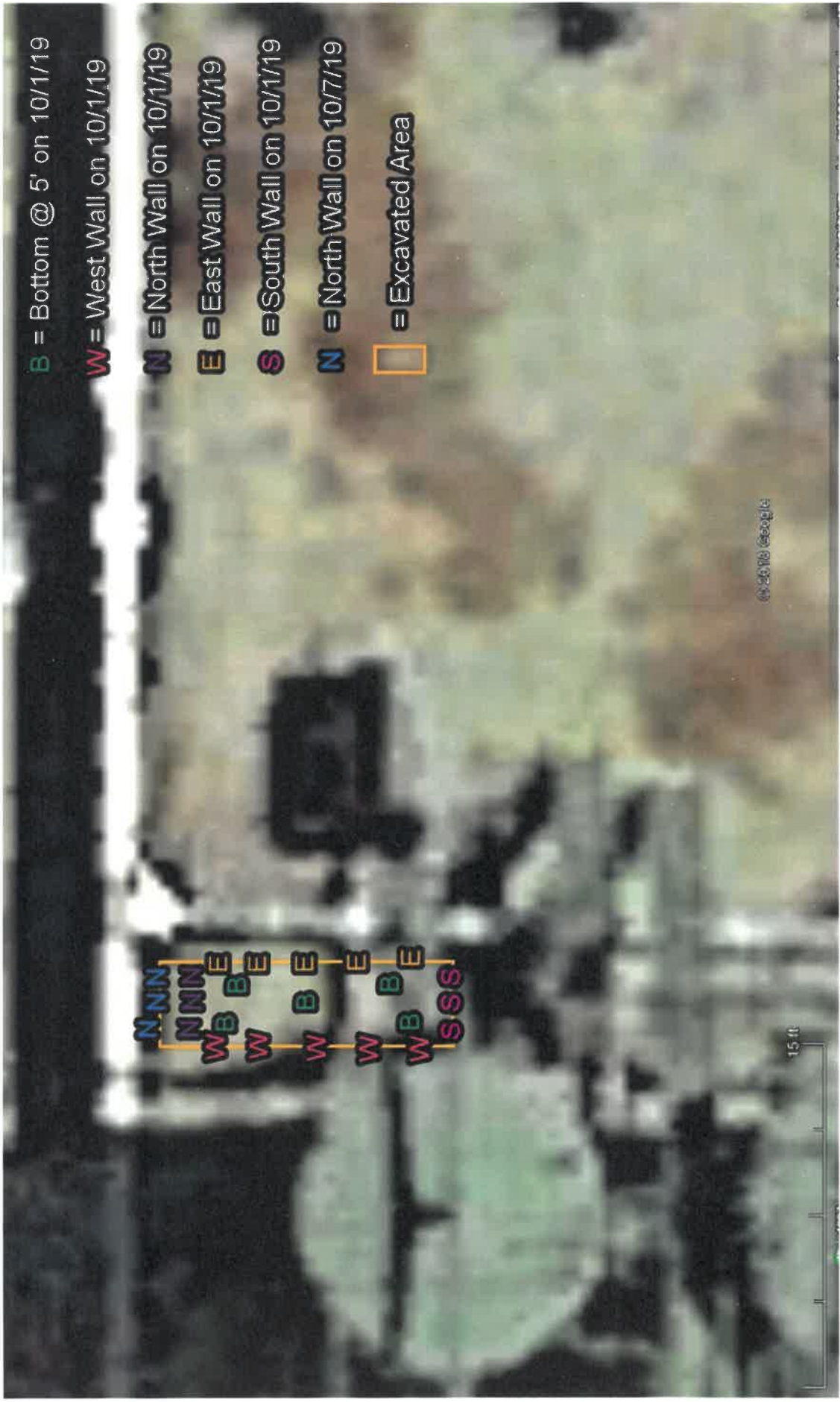
10/9/2019

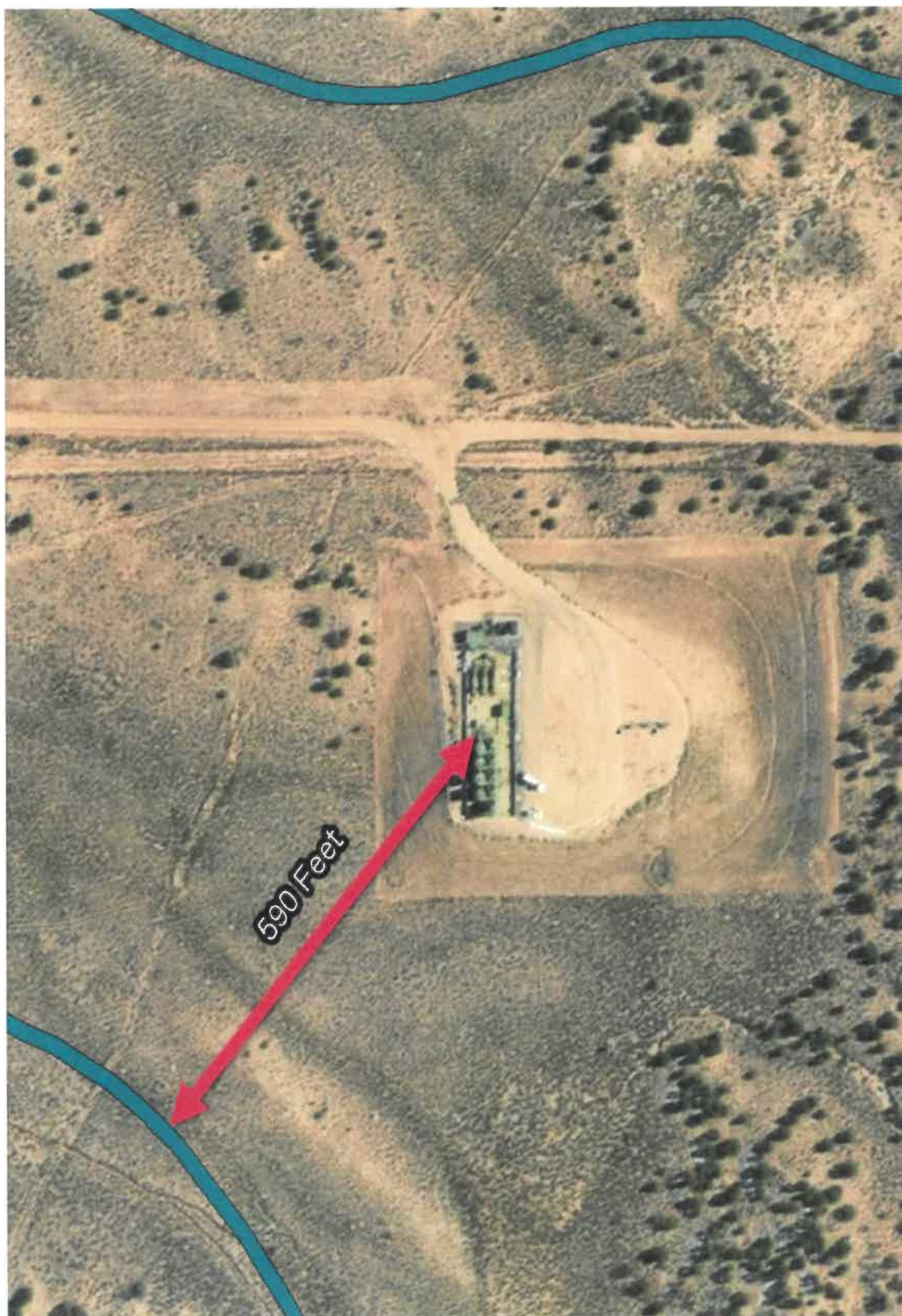
Sample results from the 10/7/2019 closure sampling of the North wall were received. The North Wall sample returned results below the NMOCD Table I standards determined for this location. All closure samples returned results below the closure standards outlined in Table I for this location. Results for all sampling events can be referenced in the attached *Sample Results Table*, and the attached *Analytical Results*.

NE Chaco COM 181H Sample Results Table

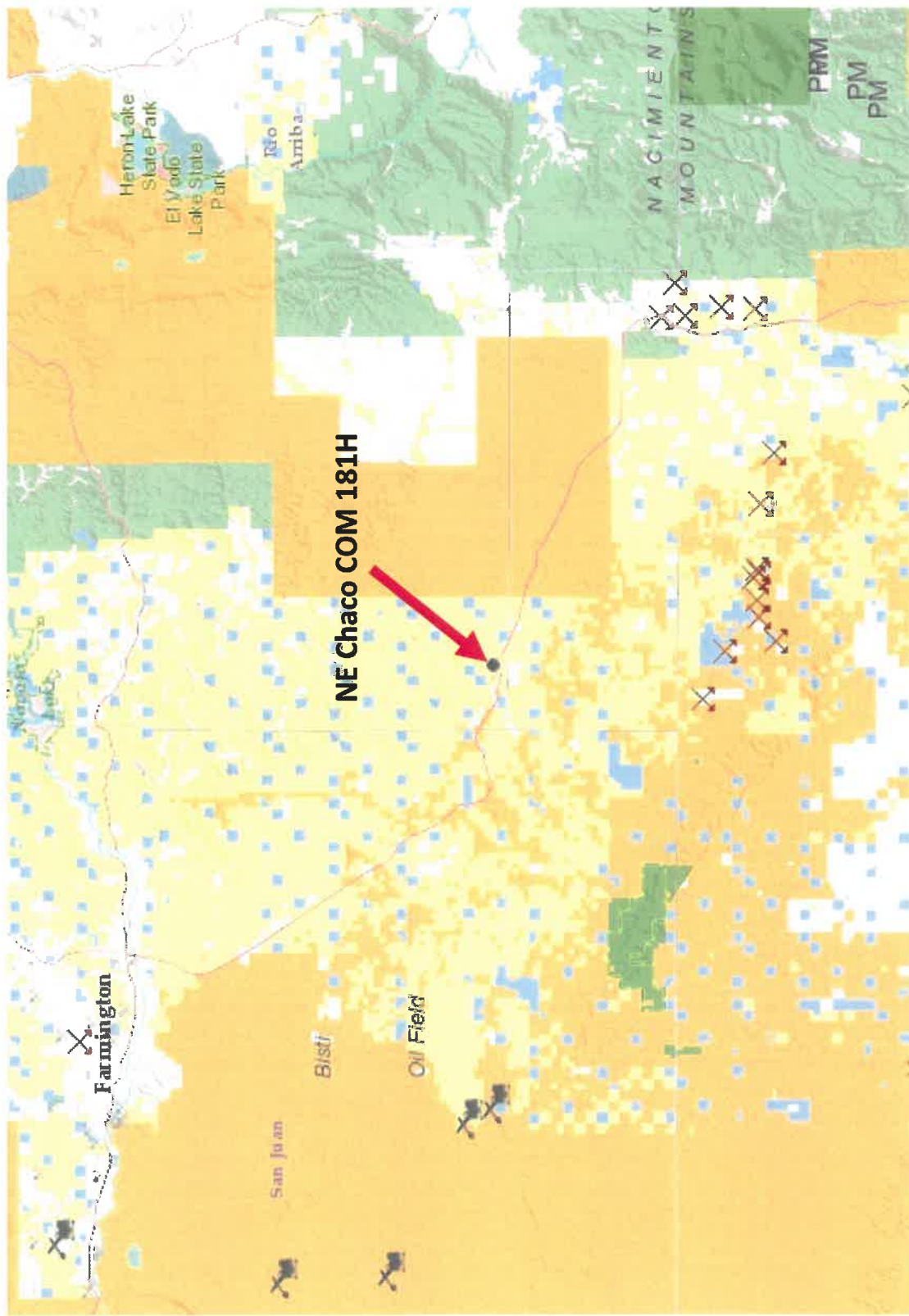
Sample Name	Date	DRO	GRO	DRO +		Total TPH	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	Chlorides	Square Footage
				GRO	ORO								
STANDARD	NA	NA	NA	1,000	NA	2,500	10	NA	NA	NA	50	20,000	
North Wall	9/27/2019	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	200 sq. ft
West Wall	9/27/2019	< 20	< 25	< 45	< 50	< 95	< 0.250	< 0.250	< 0.250	< 0.250	< 0.1	1390	15
East Wall	9/27/2019	< 20	< 25	< 45	< 50	< 95	< 0.250	< 0.250	< 0.250	0.0355	0.036	140	50
South Wall	9/27/2019	< 20	< 25	< 45	< 50	< 95	< 0.250	< 0.250	< 0.250	< 0.250	< 0.1	272	50
Bottom @ 5' BGS	9/27/2019	188	< 20	188	55.8	243.8	< 0.250	0.064	< 0.250	0.153	0.217	132	30
North Wall	10/7/2019	< 20	< 25	< 45	< 50	< 95	< 0.250	< 0.250	< 0.250	< 0.250	< 0.1	< 20	15

CLOSURE SAMPLES

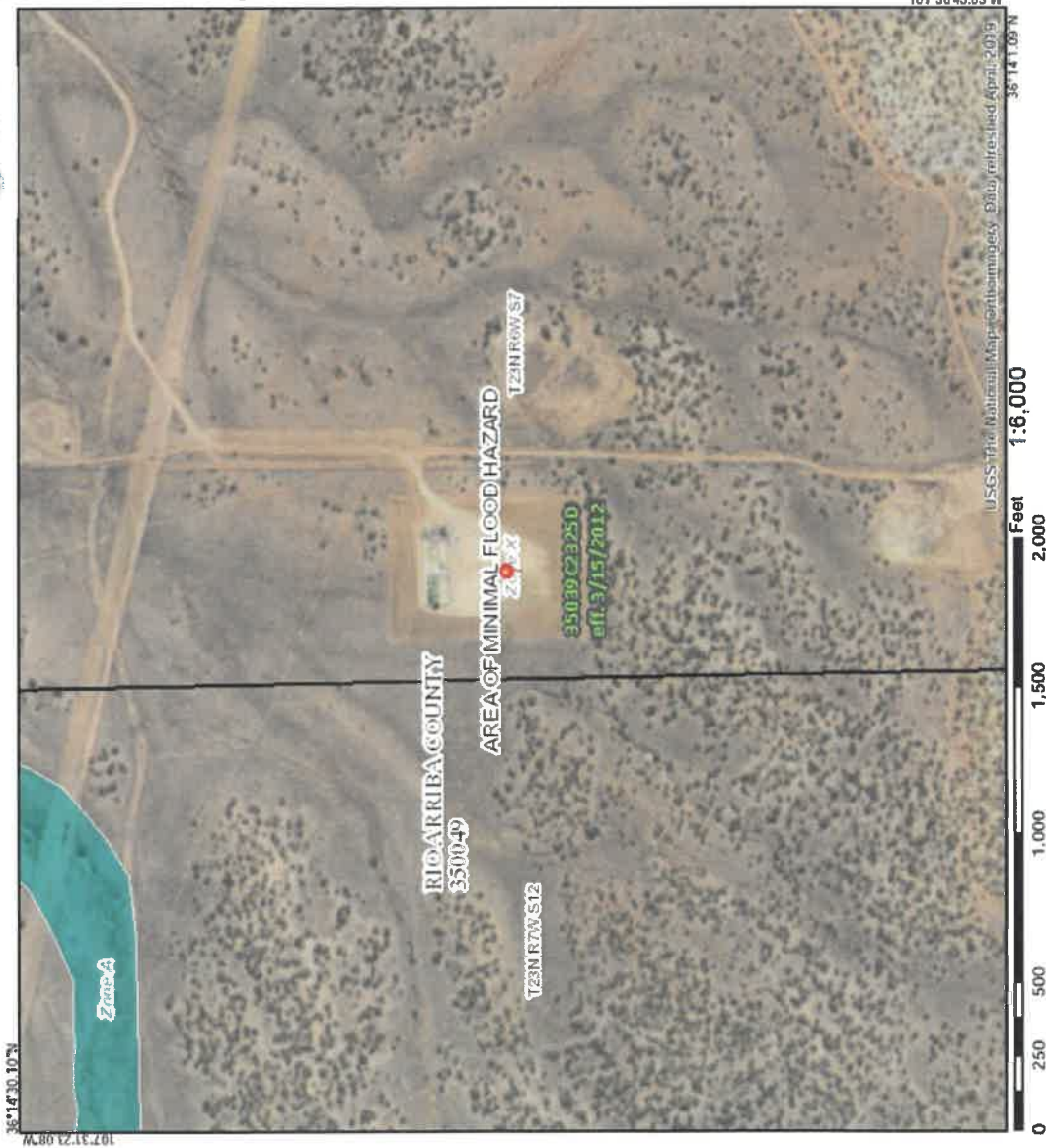








National Flood Hazard Layer FIRMette



Legend

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

SPECIAL FLOOD HAZARD AREAS
 Without Basis Flood Elevation (BFE)
 Zone X, Y, A99
 With BFE or Depth Zone AF, AO, AH, XE, AP
 Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
 0.2% Annual Chance Flood Hazard. Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 Future Conditions 1% Annual Chance Flood Hazard Zone X
 Area with Reduced Flood Risk due to Levee. See Notes, Zone X
 Area with Flood Risk due to Levee Zone D

OTHER AREAS
 GENERAL STRUCTURES
 Areas of Minimal Flood Hazard Zone X
 Effective LOMRPs
 Areas of Undetermined Flood Hazard Zone D
 Channel, Culvert, or Storm Sewer
 Levee, Dike, or Floodwall

Cross Sections with 1% Annual Chance
 Water Surface Elevation
 Coastal Transverse
 Base Flood Elevation Line (BFE)
 Limit of Study
 Jurisdiction Boundary
 Coastal Transverse Baseline
 Profile Baseline
 Hydrographic Feature

MAP PANELS
 Digital Data Available
 No Digital Data Available
 Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps. It is not to be used as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/22/2019 at 10:44:46 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is valid if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

300 Feet

30-039-31250
30-039-31191

30-039-22443

30-039-21837

L-3





Elevation: 6,958 Feet

NE Chaco COM 181H

3,070 Feet

SJ 01156 (DTW - 200)

Elevation: 6,895 Feet



New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
		Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	SJ 01156	2	2	1	18	23N	06W	274330	4012555*

x

Driller License: 867	Driller Company: HUTCHESON DRILLING CO.	
Driller Name: WESTERN DRILLING		
Drill Start Date: 04/10/1980	Drill Finish Date: 04/20/1980	Plug Date:
Log File Date: 06/16/1980	PCW Rcv Date:	Source:
Pump Type:	Pipe Discharge Size:	Estimated Yield:
Casing Size: 7.00	Depth Well: 1500 feet	Depth Water: 200 feet

x

*UTM location was derived from PLSS - see Help

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

10/21/19 10:35 AM

POINT OF DIVERSION SUMMARY

STATE ENGINEER OFFICE WELL RECORD

55-1156

Section 1. GENERAL INFORMATION

(A) Owner of well H.C. Berry Owner's Well No. #1-H
 Street or Post Office Address Box 11
 City and State Council, N.M.
Get info from H.C. Berry
 Well was drilled under Permit No. _____ and is located in the:

a. $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW of Section 18 Township 23N Range 6W N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
 Subdivision, recorded in San Juan County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
 the _____ Grant.

(B) Drilling Contractor Western Drilling, Inc. License No. 560

Address 503 E. Cedar, Farmington, N.M.

Drilling Began 4-10-80 Completed 4-20-80 Type tools Rotary Size of hole 9 3/4 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 1500 ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well 200 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
1000	1130	50'	medium grained clay	
			quartz sand	
			Ojo-Alamo	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
7"		8	EL	1500	1500	Ball joint	900	1500

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				
Surface	500'	9 3/4"		300	pump truck

Section 5. PLUGGING RECORD

Plugging Contractor _____
 Address _____
 Plugging Method _____
 Date Well Plugged _____
 Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

Date Received 6/16/80

FOR USE OF STATE ENGINEER ONLY

File No. SJ-1156

Quad _____ FWL _____ FSL _____
 Pros. _____ 23N.6W.18 122
 Use _____ Location No. _____
 San Juan County

jts

[illegible]

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

James F. Hilder
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a logging record, only Section 1(a) and Section 5 need be completed.

James McDaniel

From: James McDaniel
Sent: Wednesday, September 18, 2019 12:29 PM
To: 'Smith, Cory, EMNRD'; Powell, Brandon, EMNRD
Cc: Chad Snell; Andrea Felix; 'Abiodun Emmanuel Adelaye'; Sarah Scott (sscott@blm.gov)
Subject: NE Chaco COM 181H Release Notification

Cory,

As discussed on the phone, we discovered an underground line leak at the NE Chaco COM 181H well site (API: 30-039-31250) yesterday afternoon, 9/17/2019. Our production foreman noted 25 bbls of water missing from the above ground water tank, and pressure tested the underground flowline to check for a potential leak. The pressure test indicated a leak in the underground water dump line. Based on the amount lost from the tank, we believe the water lost is equal to 25 bbls. All liquids remained on-pad, beneath the lined equipment berm. No evidence of the release is visible at the surface or off of the location. We will be investigating the source of the release tomorrow (9/19/2019) using a hydrovac. Please let me know if there are any questions regarding this release.

James McDaniel
HSE Supervisor
Enduring Resources
CSP #30009
CHMM #15676
CET #13805
Office: 505-636-9731
Cell: 505-444-3004
jmcdaniel@enduringresources.com



Chad Snell

From: James McDaniel
Sent: Friday, October 04, 2019 7:09 AM
To: Smith, Cory, EMNRD
Cc: Abiodun Emmanuel Adelaye; Chad Snell; John Dockter
Subject: NE Chaco COM 181H Resample

Gentlemen,

One sample on the NE Chaco COM 181H final closure sampling that occurred on 9/27/19 came back above 600 ppm for chlorides, the North Wall. This area was excavated an additional 3 feet, and will be re-sampled for closure on Monday, October 7th at 10 AM. Thank you for your time in regards to this matter.

James McDaniel
HSE Supervisor
Enduring Resources

CSP #30009

CHMM #15676

CET #13805

Office: 505-636-9731

Cell: 505-444-3004

jmcdaniel@enduringresources.com



Chad Snell

From: Chad Snell
Sent: Wednesday, September 25, 2019 9:24 AM
To: 'Smith, Cory, EMNRD'
Cc: James McDaniel; 'aadeloye@blm.gov'; 'Powell, Brandon, EMNRD'
Subject: NE Chaco Com 181H

Cory,

Please accept this email as the required 48 hour notice for closure sampling activities to take place at the NE Chaco Com 181H. All clean-up activities have been completed and closure sampling will take place Friday September 27thth at 9:30am. If you have any questions contact James or myself in regards to this matter.

Thanks.

Chad Snell
HSE Tech
Enduring Resources
(505) 444-0586.



ENDURING RESOURCES

ON-SITE FORM

Well Name NE Chaco Com 1814 API # 30-039-31250

Section 7 Township 23 N Range 6 W County Rio Arriba State NM

Contractors On-Site _____ Time On-Site 9:20am Time Off-Site 12:00pm

Spill Amount 25 bbls Spilled (Oil/ Produced Water / Other _____) Recovered 0

Land Use (Range / Residential / Tribe _____) Spill Area _____ x _____ x _____ deep

Sample Location

Sample Location

Site Diagram

Sample Location

BLM on site to witness, Bottom of hole had some water in it, BLM wanted to wait until water was pulled to sample.

Comments

Samples

Time	Sample #	Sample Description	Characteristics	OVM (ppm)	Analysis Requested
	NA	100 Standard	NA		NA
11:30am	1	North wall			8021, 9015, chlorides
11:35am	2	West wall			
11:40am	3	East wall			
11:45am	4	South wall			
11:50am	5	Bottom			

Name (Print) Chad Snel

Date 9-27-19

Name (Signature) [Signature]

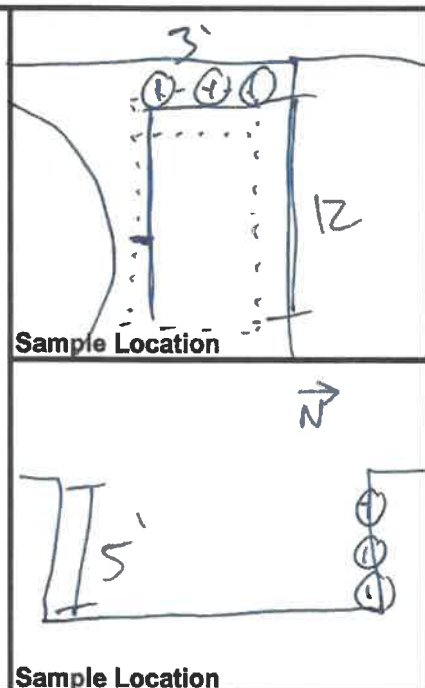
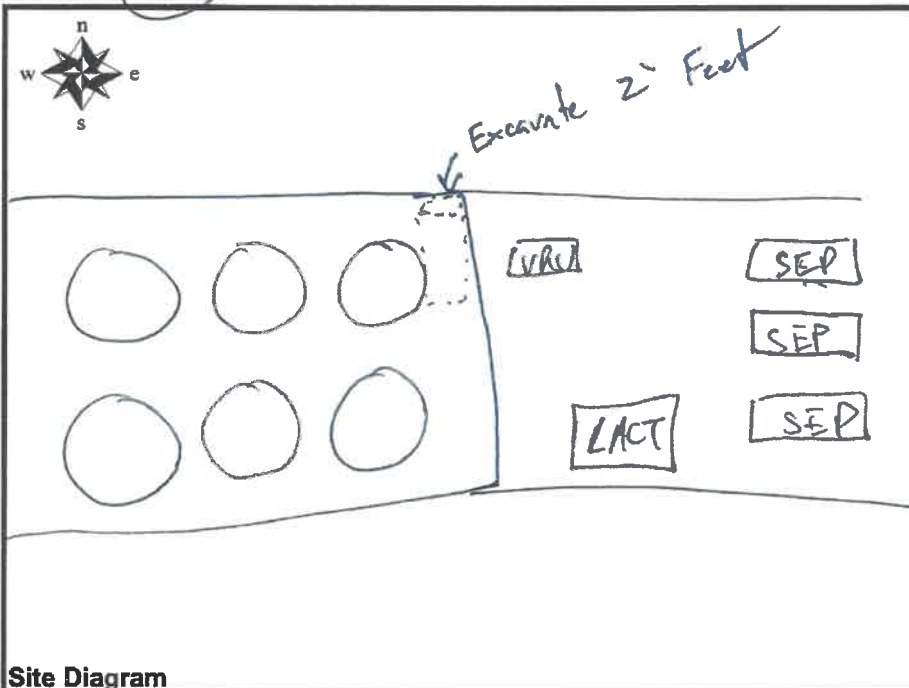
Company Enduring Resources



ENDURING RESOURCES

ON-SITE FORM

Well Name NE Chaco COM 181H API # 30-039-31250
Section 7 Township 23N Range 6W County Rio Arriba State NM
Contractors On-Site NRE Time On-Site 9:00 Am Time Off-Site 10:15 Am
Spill Amount 25 bbls Spilled (Oil/Produced Water/Other Produced Water) Recovered —
Land Use (Range) Residential / Tribe —) Spill Area 12 x 3 x 5 deep



hydrovac 2' on North wall
collected sample on North wall. No odor. Will schedule
close sampling

Samples

Time	Sample #	Sample Description	Characteristics	OVM (ppm)	Analysis Requested
—	NA	100 Standard	NA	—	NA
10:00am	1	North Wall	No odor, Sand, Brown	—	NONE

Name (Print) James McDaniel Date 10/4/19
Name (Signature) [Signature] Company Enduring



Enduring Resources, LLC
Spill Closure Report
NE Chaco COM 181H



Photo 1: Excavated Area (View of North Wall)



Enduring Resources, LLC
Spill Closure Report
NE Chaco COM 181H

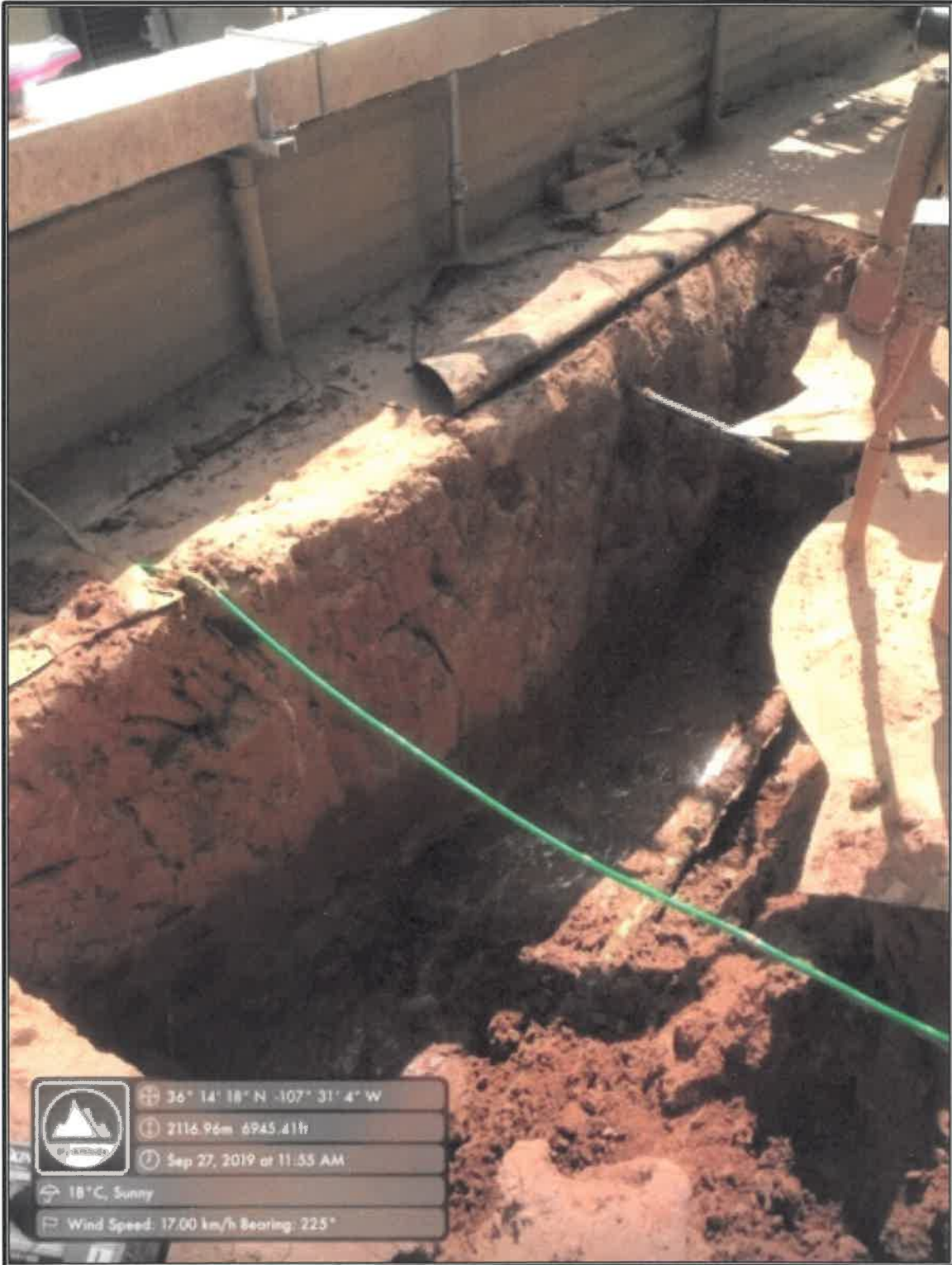


Photo 2: Excavated Area (View of East Wall)



Enduring Resources, LLC
Spill Closure Report
NE Chaco COM 181H

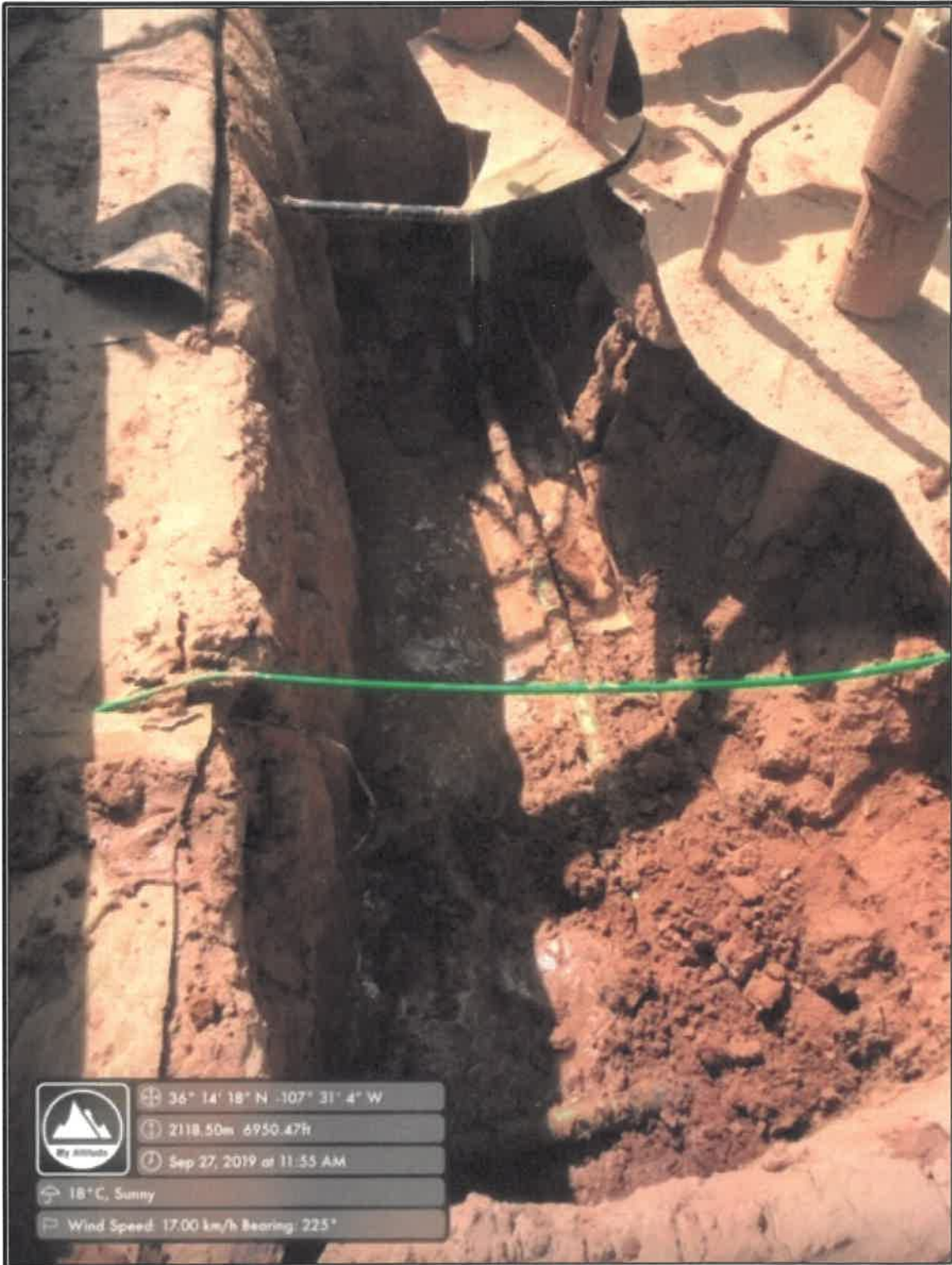


Photo 4: Excavated Area (Excavation Overview)

Analytical Report

Report Summary

Client: Enduring Resources, LLC

Samples Received: 9/27/2019

Job Number: 17065-0017

Work Order: P909088

Project Name/Location: NE Chaco 181H

Report Reviewed By:



Date: 10/1/19

Walter Hinchman, Laboratory Director

Supplement to analytical report generated on: 10/1/19 12:14 pm



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
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Envirotech, Inc, holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.

Enduring Resources, LLC
511 16th Street, Suite 700
Denver CO, 80202

Project Name: NE Chaco 181H
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
10/01/19 14:41

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
North Wall	P909088-01A	Soil	09/27/19	09/27/19	Glass Jar, 4 oz.
West Wall	P909088-02A	Soil	09/27/19	09/27/19	Glass Jar, 4 oz.
East Wall	P909088-03A	Soil	09/27/19	09/27/19	Glass Jar, 4 oz.
South Wall	P909088-04A	Soil	09/27/19	09/27/19	Glass Jar, 4 oz.
Bottom	P909088-05A	Soil	09/27/19	09/27/19	Glass Jar, 4 oz.

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Enduring Resources, LLC
511 16th Street, Suite 700
Denver CO, 80202

Project Name: NE Chaco 181H
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
10/01/19 14:41

North Wall
P909088-01 (Solid)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		101 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Toluene-d8		95.4 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Bromofluorobenzene		96.5 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Surrogate: n-Nonane		103 %		50-200	1939043	09/28/19	09/28/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		101 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Toluene-d8		95.4 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Bromofluorobenzene		96.5 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	1390	20.0	mg/kg	1	1939041	09/27/19	09/27/19	EPA 300.0/9056A	
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Enduring Resources, LLC
511 16th Street, Suite 700
Denver CO, 80202

Project Name: NE Chaco 181H
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
10/01/19 14:41

West Wall
P909088-02 (Solid)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
o-Xylene	0.0355	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Total Xylenes	0.0355	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Toluene-d8		97.7 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Bromofluorobenzene		99.6 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Surrogate: n-Nonane		98.1 %		50-200	1939043	09/28/19	09/28/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Toluene-d8		97.7 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Bromofluorobenzene		99.6 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	140	20.0	mg/kg	1	1939041	09/27/19	09/27/19	EPA 300.0/9056A	
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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 10/01/19 14:41

East Wall
P909088-03 (Solid)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Toluene-d8		96.4 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Bromofluorobenzene		97.3 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Surrogate: n-Nonane		100 %		50-200	1939043	09/28/19	09/28/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Toluene-d8		96.4 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Bromofluorobenzene		97.3 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	272	20.0	mg/kg	1	1939041	09/27/19	09/27/19	EPA 300.0/9056A	
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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 10/01/19 14:41

South Wall
P909088-04 (Solid)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Toluene-d8		97.9 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Bromofluorobenzene		100 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Surrogate: n-Nonane		98.0 %		50-200	1939043	09/28/19	09/28/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Toluene-d8		97.9 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Bromofluorobenzene		100 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	125	20.0	mg/kg	1	1939041	09/27/19	09/27/19	EPA 300.0/9056A	
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Enduring Resources, LLC	Project Name:	NE Chaco 181H	Reported: 10/01/19 14:41
511 16th Street, Suite 700	Project Number:	17065-0017	
Denver CO, 80202	Project Manager:	Chad Snell	

Bottom
P909088-05 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Toluene	0.0640	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
p,m-Xylene	0.0540	0.0500	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
o-Xylene	0.0985	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Total Xylenes	0.153	0.0250	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		98.2 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Toluene-d8		99.2 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	
Surrogate: Bromofluorobenzene		99.8 %		70-130	1939042	09/27/19	09/30/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	188	25.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Oil Range Organics (C28-C40)	55.8	50.0	mg/kg	1	1939043	09/28/19	09/28/19	EPA 8015D	
Surrogate: n-Nonane		101 %		50-200	1939043	09/28/19	09/28/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		98.2 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Toluene-d8		99.2 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	
Surrogate: Bromofluorobenzene		99.8 %		70-130	1939042	09/27/19	09/30/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	132	20.0	mg/kg	1	1939041	09/27/19	09/27/19	EPA 300.0/9056A	
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Enduring Resources, LLC
511 16th Street, Suite 700
Denver CO, 80202

Project Name: NE Chaco 181H
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
10/01/19 14:41

Volatile Organic Compounds by 8260 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939042 - Purge and Trap EPA 5030A

Blank (1939042-BLK1)

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 1,2-Dichloroethane-d4	0.525		"	0.500		105	70-130			
Surrogate: Toluene-d8	0.486		"	0.500		97.1	70-130			
Surrogate: Bromofluorobenzene	0.480		"	0.500		96.0	70-130			

LCS (1939042-BS1)

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Benzene	2.29	0.0250	mg/kg	2.50		91.7	70-130			
Toluene	2.15	0.0250	"	2.50		86.1	70-130			
Ethylbenzene	2.20	0.0250	"	2.50		88.1	70-130			
p,m-Xylene	4.34	0.0500	"	5.00		86.7	70-130			
o-Xylene	2.17	0.0250	"	2.50		86.9	70-130			
Total Xylenes	6.51	0.0250	"	7.50		86.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.520		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.494		"	0.500		98.7	70-130			
Surrogate: Bromofluorobenzene	0.513		"	0.500		103	70-130			

Matrix Spike (1939042-MS1)

Source: P909088-01

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Benzene	2.47	0.0250	mg/kg	2.50	ND	98.8	48-131			
Toluene	2.32	0.0250	"	2.50	ND	92.8	48-130			
Ethylbenzene	2.38	0.0250	"	2.50	ND	95.4	45-135			
p,m-Xylene	4.68	0.0500	"	5.00	ND	93.7	43-135			
o-Xylene	2.36	0.0250	"	2.50	ND	94.5	43-135			
Total Xylenes	7.05	0.0250	"	7.50	ND	94.0	43-135			
Surrogate: 1,2-Dichloroethane-d4	0.527		"	0.500		105	70-130			
Surrogate: Toluene-d8	0.491		"	0.500		98.2	70-130			
Surrogate: Bromofluorobenzene	0.503		"	0.500		101	70-130			

Matrix Spike Dup (1939042-MSD1)

Source: P909088-01

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Benzene	2.35	0.0250	mg/kg	2.50	ND	94.2	48-131	4.79	23	
Toluene	2.26	0.0250	"	2.50	ND	90.4	48-130	2.66	24	
Ethylbenzene	2.33	0.0250	"	2.50	ND	93.2	45-135	2.29	27	
p,m-Xylene	4.56	0.0500	"	5.00	ND	91.2	43-135	2.64	27	
o-Xylene	2.29	0.0250	"	2.50	ND	91.7	43-135	3.05	27	
Total Xylenes	6.85	0.0250	"	7.50	ND	91.4	43-135	2.78	27	
Surrogate: 1,2-Dichloroethane-d4	0.515		"	0.500		103	70-130			
Surrogate: Toluene-d8	0.490		"	0.500		98.0	70-130			
Surrogate: Bromofluorobenzene	0.502		"	0.500		100	70-130			

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181H
 Project Number: 17065-0017
 Project Manager: Chad Snell

Reported:
 10/01/19 14:41

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939043 - DRO Extraction EPA 3570
Blank (1939043-BLK1)

Prepared: 09/28/19 0 Analyzed: 09/28/19 1

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	48.6		"	50.0		97.2	50-200			

LCS (1939043-BS1)

Prepared: 09/28/19 0 Analyzed: 09/28/19 1

Diesel Range Organics (C10-C28)	476	25.0	mg/kg	500		95.3	38-132			
Surrogate: n-Nonane	46.7		"	50.0		93.4	50-200			

Matrix Spike (1939043-MS1)

Source: P909088-01

Prepared: 09/28/19 0 Analyzed: 09/28/19 1

Diesel Range Organics (C10-C28)	522	25.0	mg/kg	500	ND	104	38-132			
Surrogate: n-Nonane	48.3		"	50.0		96.5	50-200			

Matrix Spike Dup (1939043-MSD1)

Source: P909088-01

Prepared: 09/28/19 0 Analyzed: 09/28/19 1

Diesel Range Organics (C10-C28)	539	25.0	mg/kg	500	ND	108	38-132	3.22	20	
Surrogate: n-Nonane	49.9		"	50.0		99.8	50-200			

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 10/01/19 14:41

Nonhalogenated Organics by 8015 - GRO - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939042 - Purge and Trap EPA 5030A
Blank (1939042-BLK1)

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1,2-Dichloroethane-d4	0.525		"	0.500		105	70-130			
Surrogate: Toluene-d8	0.486		"	0.500		97.1	70-130			
Surrogate: Bromofluorobenzene	0.480		"	0.500		96.0	70-130			

LCS (1939042-BS2)

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Gasoline Range Organics (C6-C10)	48.9	20.0	mg/kg	50.0		97.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.486		"	0.500		97.1	70-130			
Surrogate: Toluene-d8	0.490		"	0.500		97.9	70-130			
Surrogate: Bromofluorobenzene	0.483		"	0.500		96.6	70-130			

Matrix Spike (1939042-MS2)

Source: P909088-01

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Gasoline Range Organics (C6-C10)	43.7	20.0	mg/kg	50.0	ND	87.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.500		"	0.500		100	70-130			
Surrogate: Toluene-d8	0.499		"	0.500		99.7	70-130			
Surrogate: Bromofluorobenzene	0.502		"	0.500		100	70-130			

Matrix Spike Dup (1939042-MSD2)

Source: P909088-01

Prepared: 09/27/19 1 Analyzed: 09/30/19 0

Gasoline Range Organics (C6-C10)	40.3	20.0	mg/kg	50.0	ND	80.6	70-130	8.17	20	
Surrogate: 1,2-Dichloroethane-d4	0.535		"	0.500		107	70-130			
Surrogate: Toluene-d8	0.488		"	0.500		97.6	70-130			
Surrogate: Bromofluorobenzene	0.501		"	0.500		100	70-130			

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181H
 Project Number: 17065-0017
 Project Manager: Chad Snell

Reported:
 10/01/19 14:41

Anions by 300.0/9056A - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1939041 - Anion Extraction EPA 300.0/9056A										
Blank (1939041-BLK1)				Prepared & Analyzed: 09/27/19 1						
Chloride	ND	20.0	mg/kg							
LCS (1939041-BS1)				Prepared & Analyzed: 09/27/19 1						
Chloride	255	20.0	mg/kg	250		102	90-110			
Matrix Spike (1939041-MS1)				Source: P909088-01 Prepared & Analyzed: 09/27/19 1						
Chloride	1510	20.0	mg/kg	250	1390	46.4	80-120			M4
Matrix Spike Dup (1939041-MSD1)				Source: P909088-01 Prepared & Analyzed: 09/27/19 1						
Chloride	1830	20.0	mg/kg	250	1390	175	80-120	19.2	20	M4

QC Summary Report
Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Enduring Resources, LLC
511 16th Street, Suite 700
Denver CO, 80202

Project Name: NE Chaco 181H
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
10/01/19 14:41

Notes and Definitions

M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Client: Enduro Resources Project: NE Johnson 1814 Project Manager: Chad Snell Address: 200 Energy Court, NM City, State, Zip: Farmington, NM Phone: (505) 444-0586 Email: csnell@enduroresources.com		Report Attention Report due by: Attention: Address: City, State, Zip: Phone: Email:		Lab Use Only Lab WO# P909088 Job Number 17005-0017 Analysis and Method		TAT 1D 3D EPA Program RCRA CWA SDWA							
Time Sampled	Date	Matrix	No. Containers	Sample ID	Lab Number	DRD/CRO by 8015	GRO/DRD by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	State	Remarks
11:30am	9-27-19	S	1	North well	1	X	X	X	X	X	X	NM	
11:35am			1	West well	2	X	X	X	X	X	X	CO	
11:40am			1	East well	3	X	X	X	X	X	X	UT	
11:45am			1	South well	4	X	X	X	X	X	X	TX	
11:50am			1	Bottom	5	X	X	X	X	X	X	AZ	
Additional Instructions:													

I, (field samples), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: CSN Date: 9-27-19

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
<u>[Signature]</u>	9-27-19	4:10pm	<u>Ramona Lopez</u>	9/27/19	10:10
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Received on ice: Y / (N) T1 10.3 T2 8.7 T3 6.8
AVG Temp °C

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Analytical Report

Report Summary

Client: Enduring Resources, LLC

Samples Received: 10/7/2019

Job Number: 17065-0017

Work Order: P910021

Project Name/Location: NE Chaco 181

Report Reviewed By:



Date: 10/9/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
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Envirotech, Inc, holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.

Enduring Resources, LLC
511 16th Street, Suite 700
Denver CO, 80202

Project Name: NE Chaco 181
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
10/09/19 14:19

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
North Wall	P910021-01A	Soil	10/07/19	10/07/19	Glass Jar, 4 oz.

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 10/09/19 14:19

North Wall
P910021-01 (Solid)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<u>Volatile Organics by EPA 8021</u>									
Benzene	ND	0.0250	mg/kg	1	1941001	10/07/19	10/07/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1941001	10/07/19	10/07/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1941001	10/07/19	10/07/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1941001	10/07/19	10/07/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1941001	10/07/19	10/07/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1941001	10/07/19	10/07/19	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		90.9 %		50-150	1941001	10/07/19	10/07/19	EPA 8021B	
<u>Nonhalogenated Organics by 8015 - DRO/ORO</u>									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1941008	10/07/19	10/08/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1941008	10/07/19	10/08/19	EPA 8015D	
<i>Surrogate: n-Nonane</i>		103 %		50-200	1941008	10/07/19	10/08/19	EPA 8015D	
<u>Nonhalogenated Organics by 8015 - GRO</u>									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1941001	10/07/19	10/07/19	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		91.9 %		50-150	1941001	10/07/19	10/07/19	EPA 8015D	
<u>Anions by 300.0/9056A</u>									
Chloride	ND	20.0	mg/kg	1	1941005	10/07/19	10/07/19	EPA 300.0/9056A	

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 10/09/19 14:19

Volatile Organics by EPA 8021 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1941001 - Purge and Trap EPA 5030A
Blank (1941001-BLK1)

Prepared: 10/07/19 0 Analyzed: 10/07/19 1

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 4-Bromochlorobenzene-PID	7.24		"	8.00		90.5	50-150			

LCS (1941001-BS1)

Prepared: 10/07/19 0 Analyzed: 10/07/19 1

Benzene	4.82	0.0250	mg/kg	5.00		96.4	70-130			
Toluene	4.80	0.0250	"	5.00		96.1	70-130			
Ethylbenzene	4.79	0.0250	"	5.00		95.9	70-130			
p,m-Xylene	9.61	0.0500	"	10.0		96.1	70-130			
o-Xylene	4.80	0.0250	"	5.00		96.1	70-130			
Total Xylenes	14.4	0.0250	"	15.0		96.1	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.31		"	8.00		91.3	50-150			

Matrix Spike (1941001-MS1)

Source: P910014-01

Prepared: 10/07/19 0 Analyzed: 10/07/19 1

Benzene	5.27	0.0250	mg/kg	5.00	ND	105	54.3-133			
Toluene	5.26	0.0250	"	5.00	ND	105	61.4-130			
Ethylbenzene	5.24	0.0250	"	5.00	ND	105	61.4-133			
p,m-Xylene	10.5	0.0500	"	10.0	ND	105	63.3-131			
o-Xylene	5.26	0.0250	"	5.00	ND	105	63.3-131			
Total Xylenes	15.7	0.0250	"	15.0	ND	105	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	7.32		"	8.00		91.5	50-150			

Matrix Spike Dup (1941001-MSD1)

Source: P910014-01

Prepared: 10/07/19 0 Analyzed: 10/07/19 1

Benzene	4.61	0.0250	mg/kg	5.00	ND	92.2	54.3-133	13.5	20	
Toluene	4.60	0.0250	"	5.00	ND	92.1	61.4-130	13.3	20	
Ethylbenzene	4.60	0.0250	"	5.00	ND	92.0	61.4-133	13.0	20	
p,m-Xylene	9.24	0.0500	"	10.0	ND	92.4	63.3-131	12.7	20	
o-Xylene	4.62	0.0250	"	5.00	ND	92.3	63.3-131	13.0	20	
Total Xylenes	13.9	0.0250	"	15.0	ND	92.3	63.3-131	12.8	20	
Surrogate: 4-Bromochlorobenzene-PID	7.38		"	8.00		92.2	50-150			

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 10/09/19 14:19

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1941008 - DRO Extraction EPA 3570
Blank (1941008-BLK1)

Prepared: 10/07/19 1 Analyzed: 10/07/19 2

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: <i>n</i> -Nonane	50.0		"	50.0		100	50-200			

LCS (1941008-BS1)

Prepared: 10/07/19 1 Analyzed: 10/07/19 2

Diesel Range Organics (C10-C28)	477	25.0	mg/kg	500		95.4	38-132			
Surrogate: <i>n</i> -Nonane	48.5		"	50.0		97.0	50-200			

Matrix Spike (1941008-MS1)

Source: P910005-01

Prepared: 10/07/19 1 Analyzed: 10/07/19 2

Diesel Range Organics (C10-C28)	504	25.0	mg/kg	500	ND	101	38-132			
Surrogate: <i>n</i> -Nonane	48.6		"	50.0		97.3	50-200			

Matrix Spike Dup (1941008-MSD1)

Source: P910005-01

Prepared: 10/07/19 1 Analyzed: 10/07/19 2

Diesel Range Organics (C10-C28)	505	25.0	mg/kg	500	ND	101	38-132	0.243	20	
Surrogate: <i>n</i> -Nonane	48.5		"	50.0		97.1	50-200			

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 10/09/19 14:19

Nonhalogenated Organics by 8015 - GRO - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1941001 - Purge and Trap EPA 5030A
Blank (1941001-BLK1)

Prepared: 10/07/19 0 Analyzed: 10/07/19 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.34		"	8.00		91.8	50-150			

LCS (1941001-BS2)

Prepared: 10/07/19 0 Analyzed: 10/08/19 1

Gasoline Range Organics (C6-C10)	46.0	20.0	mg/kg	50.0		92.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.45		"	8.00		93.1	50-150			

Matrix Spike (1941001-MS2)

Source: P910014-01

Prepared: 10/07/19 0 Analyzed: 10/08/19 1

Gasoline Range Organics (C6-C10)	47.2	20.0	mg/kg	50.0	ND	94.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.42		"	8.00		92.8	50-150			

Matrix Spike Dup (1941001-MSD2)

Source: P910014-01

Prepared: 10/07/19 0 Analyzed: 10/08/19 1

Gasoline Range Organics (C6-C10)	46.4	20.0	mg/kg	50.0	ND	92.8	70-130	1.72	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.40		"	8.00		92.5	50-150			

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Enduring Resources, LLC
 511 16th Street, Suite 700
 Denver CO, 80202

 Project Name: NE Chaco 181
 Project Number: 17065-0017
 Project Manager: Chad Snell

Reported:
 10/09/19 14:19

Anions by 300.0/9056A - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1941005 - Anion Extraction EPA 300.0/9056A										
Blank (1941005-BLK1)				Prepared: 10/07/19 Analyzed: 10/07/19 2						
Chloride	ND	20.0	mg/kg							
LCS (1941005-BS1)				Prepared: 10/07/19 Analyzed: 10/08/19 0						
Chloride	256	20.0	mg/kg	250		102	90-110			
Matrix Spike (1941005-MS1)				Source: P910014-01 Prepared: 10/07/19 Analyzed: 10/08/19 0						
Chloride	268	20.0	mg/kg	250	ND	107	80-120			
Matrix Spike Dup (1941005-MSD1)				Source: P910014-01 Prepared: 10/07/19 Analyzed: 10/08/19 0						
Chloride	266	20.0	mg/kg	250	ND	106	80-120	0.956	20	

QC Summary Report
Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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511 16th Street, Suite 700
Denver CO, 80202

Project Name: NE Chaco 181
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
10/09/19 14:19

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Page of

Page 9 of 9