

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 | |
| District RP | |
| Facility ID | |
| Application ID | |

FEB 25 2019
DISTRICT III

Release Notification

Responsible Party

| | |
|--|---|
| Responsible Party: Enduring Resources | OGRID: 372286 |
| Contact Name: Chad Snell | Contact Telephone: 505-444-0586 |
| Contact email: csnell@enduringresources.com | Incident # (assigned by OCD) NCS1901529402 |
| Contact mailing address: 200 Energy Court | Farmington, New Mexico 87401 |

Location of Release Source

Latitude 36.2292905 Longitude -107.534089
(NAD 83 in decimal degrees to 5 decimal places)

| | |
|--|--|
| Site Name: NE Chaco Com 173H | Site Type: Wellsite |
| Date Release Discovered: 12/31/2018 | API# (if applicable) 30-039-31207 |

| Unit Letter | Section | Township | Range | County |
|-------------|-----------|------------|-----------|-------------------|
| D | 13 | 23N | 7W | 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): 15bbls | Volume Recovered (bbls): |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | <input type="checkbox"/> Yes <input 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 12/31/18, a leak was discovered at the North East Chaco Com 173H. The release was produced water under the liner caused by failure in dump line that ran underground. The calculated volume was at 15 bbls. Clean up activities have occurred and conformation sampling took place on Thursday January 10th, 2019.

45

| | |
|----------------|--|
| Incident ID | |
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Was this a major release as defined by 19.15.29.7(A) NMAC?

☐ Yes ☒ No

If YES, for what reason(s) does the responsible party consider this a major release?

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

Initial Response

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

| | |
|----------------|--|
| Incident ID | |
| 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? | _____ (ft bgs) |
| Did this release impact groundwater or surface water? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of 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 type="checkbox"/> Yes <input checked="" 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.

State of New Mexico
Oil Conservation Division

| | |
|----------------|--|
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Closure

NMOC

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: Chad Snell Title: HSE Tech
 Signature: [Signature] Date: 2-25-2019
 email: CSnell@EnduringResources.com Telephone: (505) 444-0586

OCD Only

Received by: OCD Date: 2/26/19

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: [Signature] Date: 2/27/19
 Printed Name: Cory Title: Environmental Spec.

NE Chaco Com 173H Remediation Narrative

12/31/2018

A Leak was discovered by a Enduring Resources, LLC Lease operator. During daily routines operator noticed liner had liquid underneath and reported a leak. The dump line pipping had failed and caused the release of 15 bbls of produced water. Zero bbls were recovered. A spill calculation tool was used to determine the amount of the release with a 5% porosity for the soil being clay.

1/3/2019

NMOCD was notified that confirmation sampling would take place January 7th 2019.

1/7/2019

NMOCD canceled sampling activities due to icy roads and Cory Smith being out sick.

1/8/2019

NMOCD was notified that confirmation sampling would be rescheduled for Thursday January 10th 2019. Clean up activities began, liner was cut to see what remediation needed to take place. Around the release occurred needed to be excavated due to some sludge in area. The site was ranked using a nearby water well showing ground water to be approximately 200 ft from surface which put closure standards to 2,500 ppm TPH (DRO/GRO/ORO), 1,000 ppm GRO/DRO, 50 ppm BTEX, 10 ppm Benzene, and 20,000 ppm Chlorides.

1/9/2019

A hydrovac crew was on location to remove impacted soil. Approximately 3 bbls of impacted soil was removed from the release leaving a 3 ft. long by 3 ft. wide by 3 ft. deep excavated area.

1/10/2019

Cory Smith of the OCD was on site to witness confirmation sampling. Four composite samples were taken at this time. One from the "Spill Hole" (3 ft. x 3 ft. x 3 ft. area) which was made up from each wall and the bottom. The "East Section", "Middle Section", "West Section" all consisted of an 18ft by 7ft area that a composite sample was taken from.

1/11/2019

Laboratory analysis came back from sampling activities. All sample points came back under standards for this site except the "East Section" (see attached *Sample Results Table*)

which confirmed further remediation needed to take place. All other sections needed no further remediation.

1/16/2019

Impacted soil was removed from the "East Section". Six inches of surface (approximately 1 yd.) was scrapped from the 18 ft. by 7 ft. area.

1/17/2019

Email notification was sent to the NMOCD that final closure sampling of the "East Section" would take place on Monday January 21st 2019 at 9:00 am. See attached *Email Notification*.

1/21/2019

Composite sample was taken from "East Section" and sent in for laboratory analysis.

1/22/2019

Laboratory results confirmed that no further remediation needed to take place. Please see attached *Sample Results Table*, and *Analytical Report*.

1/24/2019

Approximately two yards of top soil was brought as backfill material. One yard was compacted in "*Spill Hole*". The remaining yard of soil was used to back fill the six inches of impacted oil that was removed from the "East Section".

2/26/2019

There are areas of the release that did not meet the 600 mg/kg reclamation requirement, however these areas are currently in use for the exploration and production of oil and gas. Once the areas are no longer in use or at final abandon, Enduring Resources will return to the impacted areas and ensure area is remediated per 19.15.29 NMAC.

Chad Snell

From: Chad Snell
Sent: Tuesday, January 08, 2019 6:52 AM
To: 'Fields, Vanessa, EMNRD'; James McDaniel; Smith, Cory, EMNRD
Cc: Kenny Dearen; John Dockter; Antonio Lucero; Powell, Brandon, EMNRD
Subject: RE: Confirmation Sampling - January 7, 2019

Good morning,

Conformation sampling will begin Thursday January 10th, 2019. We will start at the NEU 2207 16B at 9:00am followed by the NE Chaco 173H and finishing up at the Logos 2. If you have any questions please let me know.

Thanks.

From: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Sent: Monday, January 07, 2019 7:30 AM
To: James McDaniel <JMcDaniel@enduringresources.com>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Kenny Dearen <KDearen@enduringresources.com>; Chad Snell <CSnell@enduringresources.com>; John Dockter <JDockter@enduringresources.com>; Antonio Lucero <ALucero@enduringresources.com>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>
Subject: RE: Confirmation Sampling - January 7, 2019

Good morning James,

As discussed this morning sampling will be moved to Thursday January 10, 2019 due to road conditions. Sampling can occur at both locations during this time.

Please let Cory know what time sampling will occur.

Thank you,

Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 119
Cell: (505) 419-0463
vanessa.fields@state.nm.us

From: James McDaniel <JMcDaniel@enduringresources.com>
Sent: Friday, January 4, 2019 2:44 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Kenny Dearen <KDearen@enduringresources.com>; Chad Snell <CSnell@enduringresources.com>; John Dockter <JDockter@enduringresources.com>; Antonio Lucero <ALucero@enduringresources.com>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>
Subject: [EXT] RE: Confirmation Sampling - January 7, 2019

Cory,

The inspections from Dec 4 to current will be brought to the pond, and the equipment to check the leak detection will be brought as well. The sampling for the NE Chaco 173H will need to be postponed, as we were not able to get into the site as we had hoped for the cleanup today due to cold temperatures. Thanks much!

James McDaniel

HSE Supervisor

Enduring Resources

CSP #30009

CHMM #15676

Office: 505-636-9731

Cell: 505-444-3004

jmcdaniel@enduringresources.com



From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>

Sent: Friday, January 04, 2019 2:24 PM

To: James McDaniel <JMcDaniel@enduringresources.com>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>

Cc: Kenny Dearen <KDearen@enduringresources.com>; Chad Snell <CSnell@enduringresources.com>; John Dockter <JDockter@enduringresources.com>; Antonio Lucero <ALucero@enduringresources.com>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>

Subject: RE: Confirmation Sampling - January 7, 2019

James,

The times work, Please make sure on Monday that Enduring has the equipment to inspect the leak detection system at the 16B Pond Please also bring a copy of the log of the inspections of the leak detection starting from the week of December 4 2018.

The area is expecting a winter storm Sunday so please let me know ASAP Monday morning if sampling needs to be postponed. I haven't seen the release sites but if they are covered in snow Enduring may be required to return to the site at a later date to collect any possible grab samples of wet or stained areas prior to closure.

If you have any questions please give me a call.

Cory Smith

Environmental Specialist

Oil Conservation Division

Energy, Minerals, & Natural Resources

1000 Río Brazos, Aztec, NM 87410

(505)334-6178 ext 115

cory.smith@state.nm.us

From: James McDaniel <JMcDaniel@enduringresources.com>

Sent: Thursday, January 3, 2019 9:35 AM

To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>

Cc: Kenny Dearen <KDearen@enduringresources.com>; Chad Snell <CSnell@enduringresources.com>; John Dockter <JDockter@enduringresources.com>; Antonio Lucero <ALucero@enduringresources.com>

Subject: [EXT] Confirmation Sampling - January 7, 2019

As discussed with Vanessa on December 31, 2018, the confirmation sampling for the water release at the NEU 2207 16B that occurred on 12/26/2018 will be rescheduled for 9 AM on 1/7/2019. Additionally, Enduring had two additional minor releases that occurred on 12/31/2018 at the Logos 2 and the NE Chaco 173H. Cleanup activities have taken place on the Logos 2 for a 16 bbl oil spill around the wellhead, and a 15 bbl water spill will be cleaned up at the NE Chaco 173H on 1/4/2019. Confirmation sampling for these releases will also occur on 1/7/2019. Confirmation Sampling will occur at the Logos 2, following the sampling at the NEU 2207 16B, at approximately 11 AM, and confirmation sampling will occur on the NE Chaco 173H Battery at 1:00 PM, immediately following the confirmation sampling at the Logos 2. Thank you for your time in regards to these incidents.

James McDaniel

HSE Supervisor

Enduring Resources

CSP #30009

CHMM #15676

Office: 505-636-9731

Cell: 505-444-3004

jmcdaniel@enduringresources.com



Chad Snell

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Thursday, January 17, 2019 2:07 PM
To: Chad Snell
Cc: James McDaniel; John Dockter; Fields, Vanessa, EMNRD
Subject: RE: NE Chaco Com 173H NCS1901529402

Chad,

Please send me the laboratory data from the previous sampling event so I can review it.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Chad Snell <CSnell@enduringresources.com>
Sent: Thursday, January 17, 2019 12:17 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: James McDaniel <JMcDaniel@enduringresources.com>; John Dockter <JDockter@enduringresources.com>
Subject: [EXT] NE Chaco Com 173H NCS1901529402

Cory,

Enduring will be resampling the "East Section" at the NE Chaco Com 173H. Results came back a little higher than standards allow. Further excavation has already been completed. Final closure sampling will take place Monday 1/21/2019 at 9:00am. If you have any questions feel free to contact me.

Thanks.

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



Enduring Resources, LLC
Photo Page
NE Chaco Com 173H
30-039-31207

PHOTO: Release discovery East corner

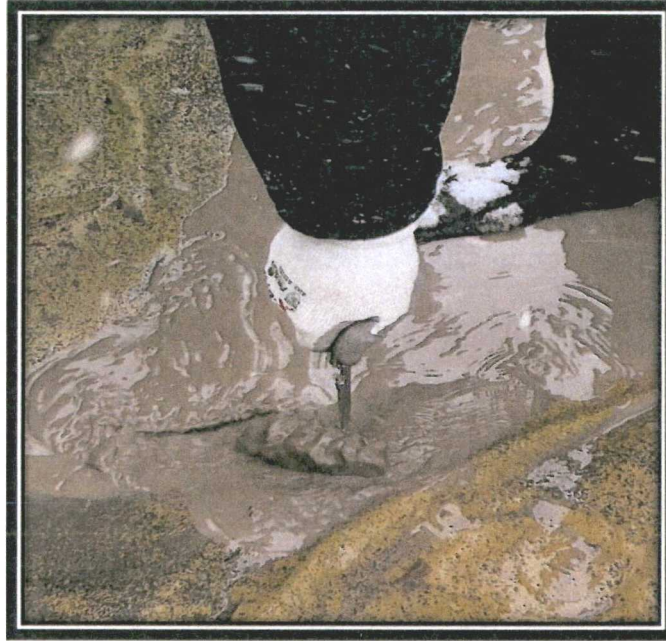


Photo: Dump line failure area.



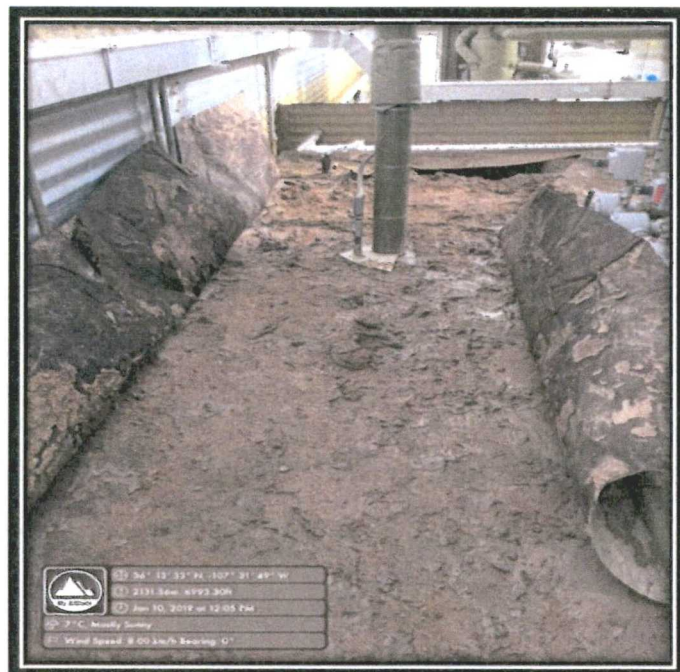


Enduring Resources, LLC
Photo Page
NE Chaco Com 173H
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Photos: Sampling Activities 1/10/2019 "Spill Hole"



Photo: "East Section"



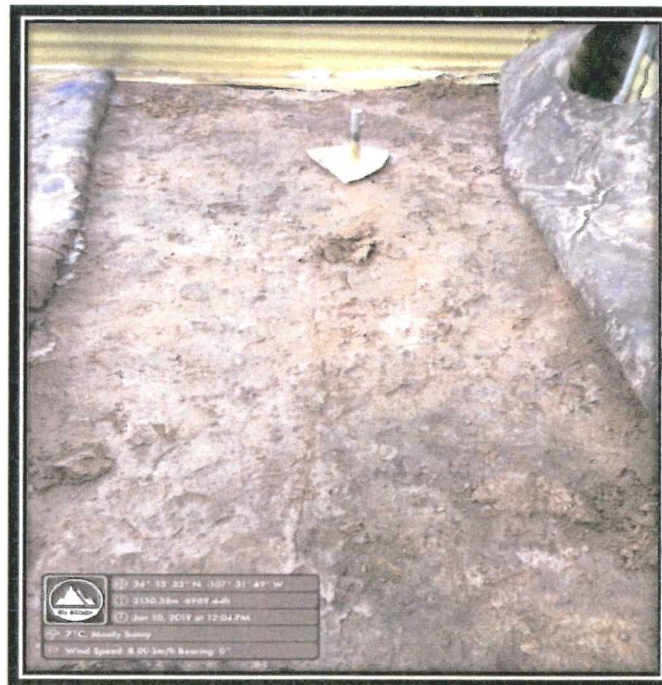


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NE Chaco Com 173H
30-039-31207

Photo: "Middle Section"



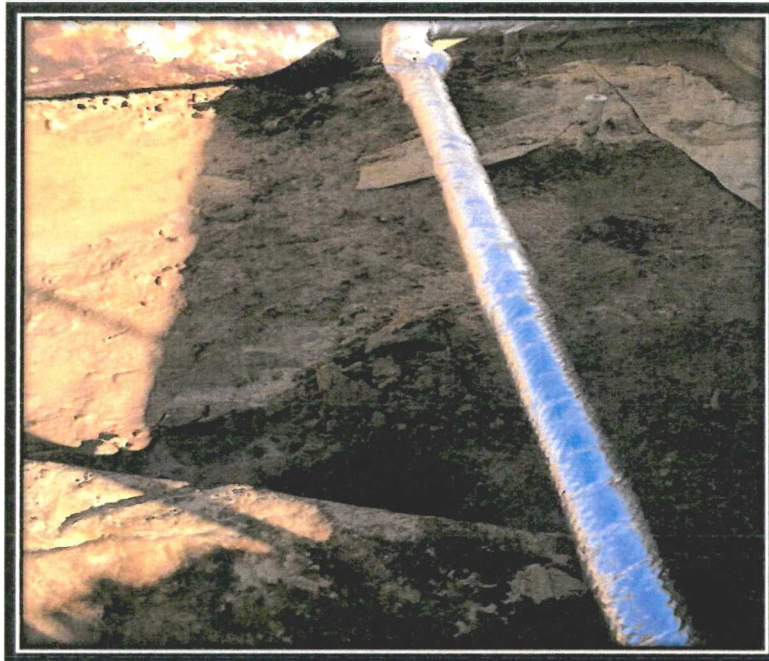
Photo: "West Section"





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NE Chaco Com 173H
30-039-31207

Photo: "East Section" Resample: sample points-1/21/2019





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Photo Page
NE Chaco Com 173H
30-039-31207

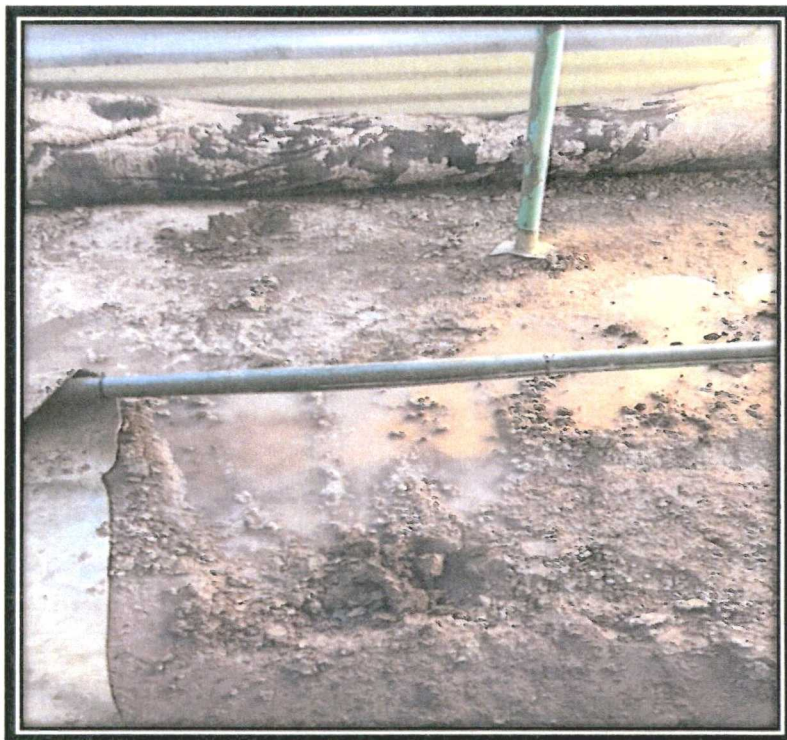
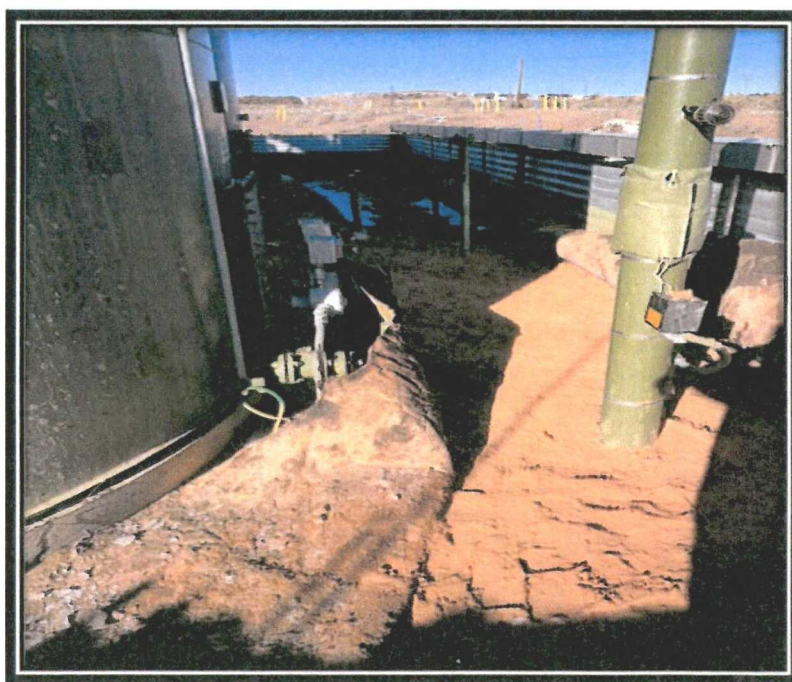
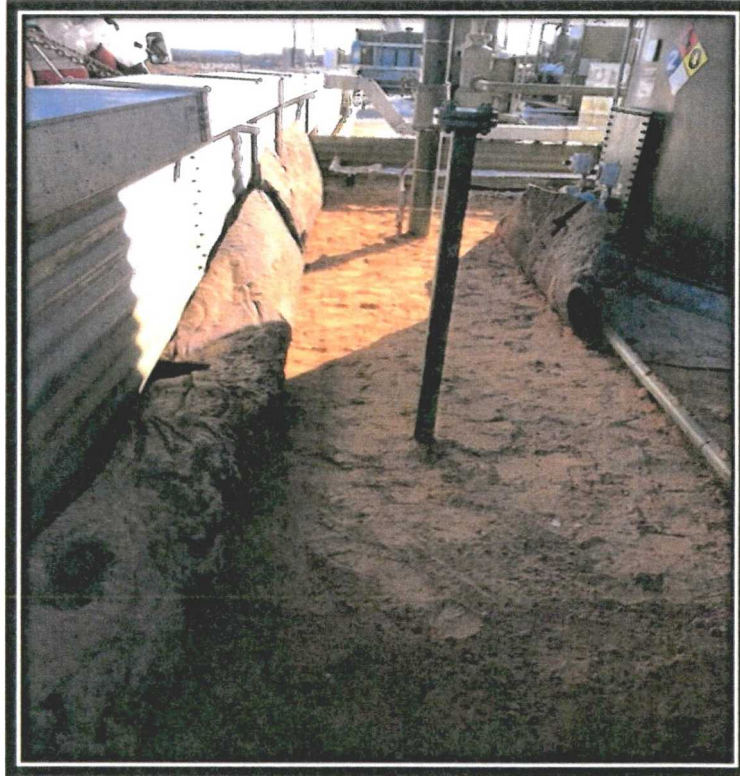


Photo: Area Back Filled





Enduring Resources, LLC
Photo Page
NE Chaco Com 173H
30-039-31207





13'33.27"N 107°31'48.00"W X



Show search results for 36°13'...



(A)

NWNW
(D)

NENW
(C)

NWNE
(B)



Measurement



Feet

Measurement Result

638.3 Feet

Clear

SWNE
(G)

30-039-

SENW
(F)

30-039-05067
(G)

NE CHACO COM 173H

Battery

Search result

Y:36.225908 X:-107.530000

Zoom to

30-039-24801

NESW
(K)

NWSE
(J)

Press CTRL to enable snapping

30-039-31213

30-039-31197

30-039-31192

30-039-24756
SWSE
(O)

30-039-24918
SESE
(P)

SWSW
(M)

SESW
(N)

30-039-24722
SWSE
(O)

200m

600ft

-107.54050 36.22015 Degrees



Chaco COM 173H
1903H

Depth to Water 200' Elevation 6898'

NE Chaco COM 184H NE Chaco COM 185H

NE Chaco 173 Battery Elevation 6998'
Johns Injection Well

550 Hwy 550

NE Chaco COM 187H NE Chaco COM 203H
NE Chaco COM 204H

Google Earth

Imagery Date: 10/13/2017 36°13'36.72" N 107°31'16.57" W elev 6956 ft eye alt 13817 ft



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

| POD Number | Code | Sub-basin | County | Q | Q | Q | Sec | Tws | Rng | X | Y | Distance | DepthWell | DepthWater | Water Column |
|--------------------------|------|-----------|--------|---|---|---|-----|-----|-----|--------|----------|----------|-----------|------------|--------------|
| SJ 01156 | | SJ | RA | 2 | 2 | 1 | 18 | 23N | 06W | 274330 | 4012555* | 0 | 1500 | 200 | 1300 |

Average Depth to Water: 200 feet

Minimum Depth: 200 feet

Maximum Depth: 200 feet

Record Count: 1

UTMNADE3 Radius Search (in meters):

Easting (X): 274330

Northing (Y): 4012555

Radius: 500

*UTM location was derived from FLSS - see Help

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

1/25/19 11:39 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



36°13'33.27"N 107°31'48.00"W X Q



Show search results for 36°13'33.27"...



Farmington



...

...

ent)

...

...

NE Chaco Com 173H Battery

Search result X



Y:36.225908 X:-107.530000

[Zoom to](#)

...

NACIMIENTO MOUNTAINS

PRM

PM
PM

550

Sandwich

30km

20mi

-108.722 36.504 Degrees

Sources: Esri, USGS, NOAA | Sou

WEST SECTION

EAST SECTION

55Ft Long

7ft Wide

SPILL HOLE

3ftx3ft Deep

3ft

MIDDLE SECTION

NE Chaco 173 Battery

© 2018 Google

Google

52 ft

1997

Imagery Date: 10/13/2017 36°13'33.39" N 107°31'48.48" W elev 6996 ft

Inventory

ds


ABOUT

GET DATA

+

-

Measure



Feet

Measurement Result

393.4 Feet



National Flood Hazard Layer FIRMette



36°13'45.96"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM LAYOUT

| | | |
|-----------------------------|--|---|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE) Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile Zone |
| | | 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 | | Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard Zone |
| | | Channel, Culvert, or Storm Sewer |
| OTHER FEATURES | | Levee, Dike, or Floodwall |
| | | Cross Sections with 1% Ar |
| MAP PANELS | | Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | 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 if it is not void 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 1/31/2019 at 11:21:21 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 void 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 number, FIRM effective date. Map images for unmapped and unmodernized : at be used for regulatory purposes.

USGS The National Map: Orthoimagery. Data refreshed October, 2017.

Feet 1:6,000

36°13'16.94"N

0 250 500 1,000 1,500 2,000

107°31'29.91"W

Analytical Report

Report Summary

Client: Enduring Resources, LLC

Chain Of Custody Number:

Samples Received: 1/10/2019 2:30:00PM

Job Number: 17065-0017

Work Order: P901017

Project Name/Location: NE Chaco 173H

Report Reviewed By:



Date: 1/14/19

Walter Hinchman, Laboratory Director



Date: 1/14/19

Tim Cain, Project Manager



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. currently holds the appropriate and available Utah TNI certification NM009792018-1 for the data reported.

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

Project Name: NE Chaco 173H
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
01/14/19 16:38

Analytical Report for Samples

| Client Sample ID | Lab Sample ID | Matrix | Sampled | Received | Container |
|------------------|---------------|--------|----------|----------|------------------|
| Spill Hole | P901017-01A | Soil | 01/10/19 | 01/10/19 | Glass Jar, 4 oz. |
| East Section | P901017-02A | Soil | 01/10/19 | 01/10/19 | Glass Jar, 4 oz. |
| Middle Section | P901017-03A | Soil | 01/10/19 | 01/10/19 | Glass Jar, 4 oz. |
| West Section | P901017-04A | Soil | 01/10/19 | 01/10/19 | Glass Jar, 4 oz. |

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

 Project Name: NE Chaco 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

Reported:
 01/14/19 16:38

Spill Hole
P901017-01 (Solid)

Reporting

| Analyte | Result | Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------|--------|-------|-------|----------|-------|----------|----------|--------|-------|
|---------|--------|-------|-------|----------|-------|----------|----------|--------|-------|

Volatile Organics by EPA 8021

| | | | | | | | | | |
|--|-----|-------|--------|---|---------|----------|----------|-----------|--|
| Benzene | ND | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Toluene | 121 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Ethylbenzene | ND | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| p,m-Xylene | ND | 200 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| o-Xylene | ND | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total Xylenes | ND | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total BTEX | 121 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| <i>Surrogate: 4-Bromochlorobenzene-PID</i> | | 103 % | 50-150 | | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |

Nonhalogenated Organics by 8015

| | | | | | | | | | |
|--|-----|--------|--------|---|---------|----------|----------|-----------|--|
| Gasoline Range Organics (C6-C10) | ND | 20.0 | mg/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8015D | |
| Diesel Range Organics (C10-C28) | 353 | 125 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |
| Oil Range Organics (C28-C40+) | 324 | 250 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |
| <i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i> | | 106 % | 50-150 | | 1902030 | 01/10/19 | 01/11/19 | EPA 8015D | |
| <i>Surrogate: n-Nonane</i> | | 90.4 % | 50-200 | | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |

Anions by 300.0/9056A

| | | | | | | | | | |
|----------|------|------|-------|---|---------|----------|----------|--------------------|--|
| Chloride | 3060 | 20.0 | mg/kg | 1 | 1902025 | 01/10/19 | 01/10/19 | EPA 300.0/9056A | |
|----------|------|------|-------|---|---------|----------|----------|--------------------|--|

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

 Project Name: NE Chaco 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 01/14/19 16:38

East Section
P901017-02 (Solid)

Reporting

| Analyte | Result | Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------|--------|-------|-------|----------|-------|----------|----------|--------|-------|
|---------|--------|-------|-------|----------|-------|----------|----------|--------|-------|

Volatile Organics by EPA 8021

| | | | | | | | | | |
|---------------|------|-----|-------|---|---------|----------|----------|-----------|--|
| Benzene | 326 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Toluene | 1130 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Ethylbenzene | 502 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| p,m-Xylene | 2040 | 200 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| o-Xylene | 766 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total Xylenes | 2810 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total BTEX | 4760 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |

Surrogate: 4-Bromochlorobenzene-PID 102 % 50-150 1902030 01/10/19 01/11/19 EPA 8021B

Nonhalogenated Organics by 8015

| | | | | | | | | | |
|----------------------------------|------|------|-------|---|---------|----------|----------|-----------|--|
| Gasoline Range Organics (C6-C10) | 46.1 | 20.0 | mg/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8015D | |
| Diesel Range Organics (C10-C28) | 1060 | 125 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |
| Oil Range Organics (C28-C40+) | 458 | 250 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |

Surrogate: 1-Chloro-4-fluorobenzene-FID 115 % 50-150 1902030 01/10/19 01/11/19 EPA 8015D

Surrogate: n-Nonane 116 % 50-200 1902032 01/10/19 01/10/19 EPA 8015D

Anions by 300.0/9056A

| | | | | | | | | | |
|----------|------|------|-------|---|---------|----------|----------|-----------------|--|
| Chloride | 3410 | 20.0 | mg/kg | 1 | 1902025 | 01/10/19 | 01/10/19 | EPA 300.0/9056A | |
|----------|------|------|-------|---|---------|----------|----------|-----------------|--|

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| | | | |
|----------------------------|------------------|---------------|------------------------------------|
| Enduring Resources, LLC | Project Name: | NE Chaco 173H | Reported: 01/14/19 16:38 |
| 511 16th Street, Suite 700 | Project Number: | 17065-0017 | |
| Denver CO, 80202 | Project Manager: | Chad Snell | |

Middle Section
P901017-03 (Solid)

| Reporting | | | | | | | | | |
|-----------|--------|-------|-------|----------|-------|----------|----------|--------|-------|
| Analyte | Result | Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |

Volatile Organics by EPA 8021

| | | | | | | | | | |
|---------------|------|-----|-------|---|---------|----------|----------|-----------|--|
| Benzene | ND | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Toluene | 442 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Ethylbenzene | 207 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| p,m-Xylene | 1050 | 200 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| o-Xylene | 440 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total Xylenes | 1490 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total BTEX | 2200 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |

Surrogate: 4-Bromochlorobenzene-PID 101 % 50-150 1902030 01/10/19 01/11/19 EPA 8021B

Nonhalogenated Organics by 8015

| | | | | | | | | | |
|----------------------------------|-----|------|-------|---|---------|----------|----------|-----------|--|
| Gasoline Range Organics (C6-C10) | ND | 20.0 | mg/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8015D | |
| Diesel Range Organics (C10-C28) | 635 | 125 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |
| Oil Range Organics (C28-C40+) | 324 | 250 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |

Surrogate: 1-Chloro-4-fluorobenzene-FID 110 % 50-150 1902030 01/10/19 01/11/19 EPA 8015D

Surrogate: n-Nonane 96.4 % 50-200 1902032 01/10/19 01/10/19 EPA 8015D

Anions by 300.0/9056A

| | | | | | | | | | |
|----------|------|------|-------|---|---------|----------|----------|--------------------|--|
| Chloride | 3270 | 20.0 | mg/kg | 1 | 1902025 | 01/10/19 | 01/10/19 | EPA 300.0/9056A | |
|----------|------|------|-------|---|---------|----------|----------|--------------------|--|

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

 Project Name: NE Chaco 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 01/14/19 16:38

West Section
P901017-04 (Solid)

Reporting

| Analyte | Result | Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------|--------|-------|-------|----------|-------|----------|----------|--------|-------|
|---------|--------|-------|-------|----------|-------|----------|----------|--------|-------|

Volatile Organics by EPA 8021

| | | | | | | | | | |
|---------------|-----|-----|-------|---|---------|----------|----------|-----------|--|
| Benzene | 106 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Toluene | 272 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Ethylbenzene | ND | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| p,m-Xylene | ND | 200 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| o-Xylene | 119 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total Xylenes | 294 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |
| Total BTEX | 723 | 100 | ug/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8021B | |

Surrogate: 4-Bromochlorobenzene-PID 101 % 50-150 1902030 01/10/19 01/11/19 EPA 8021B

Nonhalogenated Organics by 8015

| | | | | | | | | | |
|----------------------------------|-----|------|-------|---|---------|----------|----------|-----------|--|
| Gasoline Range Organics (C6-C10) | ND | 20.0 | mg/kg | 1 | 1902030 | 01/10/19 | 01/11/19 | EPA 8015D | |
| Diesel Range Organics (C10-C28) | 311 | 125 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |
| Oil Range Organics (C28-C40+) | 323 | 250 | mg/kg | 5 | 1902032 | 01/10/19 | 01/10/19 | EPA 8015D | |

Surrogate: 1-Chloro-4-fluorobenzene-FID 105 % 50-150 1902030 01/10/19 01/11/19 EPA 8015D

Surrogate: n-Nonane 105 % 50-200 1902032 01/10/19 01/10/19 EPA 8015D

Anions by 300.0/9056A

| | | | | | | | | | |
|----------|------|------|-------|---|---------|----------|----------|-----------------|--|
| Chloride | 3070 | 20.0 | mg/kg | 1 | 1902025 | 01/10/19 | 01/10/19 | EPA 300.0/9056A | |
|----------|------|------|-------|---|---------|----------|----------|-----------------|--|

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| | | |
|---|--|-----------------------------|
| Enduring Resources, LLC 511 16th Street, Suite 700 Denver CO, 80202 | Project Name: NE Chaco 173H Project Number: 17065-0017 Project Manager: Chad Snell | Reported: 01/14/19 16:38 |
|---|--|-----------------------------|

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 |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 1902030 - Purge and Trap EPA 5030A

Blank (1902030-BLK1)

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---------------|----|-----|-------|--|--|--|--|--|--|--|
| Benzene | ND | 100 | ug/kg | | | | | | | |
| Toluene | ND | 100 | " | | | | | | | |
| Ethylbenzene | ND | 100 | " | | | | | | | |
| p,m-Xylene | ND | 200 | " | | | | | | | |
| o-Xylene | ND | 100 | " | | | | | | | |
| Total Xylenes | ND | 100 | " | | | | | | | |
| Total BTEX | ND | 100 | " | | | | | | | |

Surrogate: 4-Bromochlorobenzene-PID 8170 " 8000 102 50-150

LCS (1902030-BS1)

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---------------|-------|-----|-------|-------|--|-----|--------|--|--|--|
| Benzene | 5060 | 100 | ug/kg | 5000 | | 101 | 70-130 | | | |
| Toluene | 5090 | 100 | " | 5000 | | 102 | 70-130 | | | |
| Ethylbenzene | 5160 | 100 | " | 5000 | | 103 | 70-130 | | | |
| p,m-Xylene | 10500 | 200 | " | 10000 | | 105 | 70-130 | | | |
| o-Xylene | 5120 | 100 | " | 5000 | | 102 | 70-130 | | | |
| Total Xylenes | 15700 | 100 | " | 15000 | | 104 | 70-130 | | | |

Surrogate: 4-Bromochlorobenzene-PID 8260 " 8000 103 50-150

Matrix Spike (1902030-MS1)

Source: P901014-01

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---------------|-------|-----|-------|-------|----|-----|----------|--|--|--|
| Benzene | 5130 | 100 | ug/kg | 5000 | ND | 103 | 54.3-133 | | | |
| Toluene | 5150 | 100 | " | 5000 | ND | 103 | 61.4-130 | | | |
| Ethylbenzene | 5210 | 100 | " | 5000 | ND | 104 | 61.4-133 | | | |
| p,m-Xylene | 10600 | 200 | " | 10000 | ND | 106 | 63.3-131 | | | |
| o-Xylene | 5170 | 100 | " | 5000 | ND | 103 | 63.3-131 | | | |
| Total Xylenes | 15800 | 100 | " | 15000 | ND | 105 | 63.3-131 | | | |

Surrogate: 4-Bromochlorobenzene-PID 8270 " 8000 103 50-150

Matrix Spike Dup (1902030-MSD1)

Source: P901014-01

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---------------|-------|-----|-------|-------|----|------|----------|------|----|----|
| Benzene | 4120 | 100 | ug/kg | 5000 | ND | 82.5 | 54.3-133 | 21.8 | 20 | DI |
| Toluene | 4110 | 100 | " | 5000 | ND | 82.3 | 61.4-130 | 22.4 | 20 | DI |
| Ethylbenzene | 4140 | 100 | " | 5000 | ND | 82.8 | 61.4-133 | 22.8 | 20 | DI |
| p,m-Xylene | 8520 | 200 | " | 10000 | ND | 85.2 | 63.3-131 | 22.0 | 20 | DI |
| o-Xylene | 4230 | 100 | " | 5000 | ND | 84.6 | 63.3-131 | 20.0 | 20 | |
| Total Xylenes | 12800 | 100 | " | 15000 | ND | 85.0 | 63.3-131 | 21.3 | 20 | DI |

Surrogate: 4-Bromochlorobenzene-PID 8300 " 8000 104 50-150

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5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com

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

 Project Name: NE Chaco 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

Reported:
 01/14/19 16:38

Nonhalogenated Organics by 8015 - Quality Control
Envirotech Analytical Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 1902030 - Purge and Trap EPA 5030A
Blank (1902030-BLK1)

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---|------|------|-------|------|--|-----|--------|--|--|--|
| Gasoline Range Organics (C6-C10) | ND | 20.0 | mg/kg | | | | | | | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.42 | | " | 8.00 | | 105 | 50-150 | | | |

LCS (1902030-BS2)

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---|------|------|-------|------|--|------|--------|--|--|--|
| Gasoline Range Organics (C6-C10) | 40.2 | 20.0 | mg/kg | 50.0 | | 80.3 | 70-130 | | | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.52 | | " | 8.00 | | 106 | 50-150 | | | |

Matrix Spike (1902030-MS2)

Source: P901014-01

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---|------|------|-------|------|----|------|--------|--|--|--|
| Gasoline Range Organics (C6-C10) | 41.9 | 20.0 | mg/kg | 50.0 | ND | 83.8 | 70-130 | | | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.44 | | " | 8.00 | | 105 | 50-150 | | | |

Matrix Spike Dup (1902030-MSD2)

Source: P901014-01

Prepared: 01/10/19 | Analyzed: 01/11/19 0

| | | | | | | | | | | |
|---|------|------|-------|------|----|------|--------|------|----|--|
| Gasoline Range Organics (C6-C10) | 43.5 | 20.0 | mg/kg | 50.0 | ND | 87.0 | 70-130 | 3.65 | 20 | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.60 | | " | 8.00 | | 107 | 50-150 | | | |

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5796 US Highway 64, Farmington, NM 87401

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

 Project Name: NE Chaco 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

Reported:
 01/14/19 16:38

Nonhalogenated Organics by 8015 - Quality Control
Envirotech Analytical Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 1902032 - DRO Extraction EPA 3570
Blank (1902032-BLK1)

Prepared & Analyzed: 01/10/19 1

| | | | | | | | | | | |
|---------------------------------|------|------|-------|------|--|-----|--------|--|--|--|
| Diesel Range Organics (C10-C28) | ND | 25.0 | mg/kg | | | | | | | |
| Oil Range Organics (C28-C40+) | ND | 50.0 | " | | | | | | | |
| Surrogate: n-Nonane | 51.6 | | " | 50.0 | | 103 | 50-200 | | | |

LCS (1902032-BS1)

Prepared & Analyzed: 01/10/19 1

| | | | | | | | | | | |
|---------------------------------|------|------|-------|------|--|------|--------|--|--|--|
| Diesel Range Organics (C10-C28) | 439 | 25.0 | mg/kg | 500 | | 87.7 | 38-132 | | | |
| Surrogate: n-Nonane | 46.5 | | " | 50.0 | | 92.9 | 50-200 | | | |

LCS Dup (1902032-BSD1)

Prepared & Analyzed: 01/10/19 1

| | | | | | | | | | | |
|---------------------------------|------|------|-------|------|--|------|--------|------|----|--|
| Diesel Range Organics (C10-C28) | 423 | 25.0 | mg/kg | 500 | | 84.5 | 38-132 | 3.74 | 20 | |
| Surrogate: n-Nonane | 43.5 | | " | 50.0 | | 87.0 | 50-200 | | | |

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

 Project Name: NE Chaco 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

Reported:
 01/14/19 16:38

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 1902025 - Anion Extraction EPA 300.0/9056A
Blank (1902025-BLK1)

Prepared: 01/10/19 0 Analyzed: 01/10/19 1

Chloride ND 20.0 mg/kg

LCS (1902025-BS1)

Prepared: 01/10/19 0 Analyzed: 01/10/19 1

Chloride 254 20.0 mg/kg 250 102 90-110

Matrix Spike (1902025-MS1)

Source: P901014-01

Prepared: 01/10/19 0 Analyzed: 01/10/19 1

Chloride 257 20.0 mg/kg 250 ND 103 80-120

Matrix Spike Dup (1902025-MSD1)

Source: P901014-01

Prepared: 01/10/19 0 Analyzed: 01/10/19 1

Chloride 258 20.0 mg/kg 250 ND 103 80-120 0.451 20

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| | | |
|---|--|-----------------------------|
| Enduring Resources, LLC 511 16th Street, Suite 700 Denver CO, 80202 | Project Name: NE Chaco 173H Project Number: 17065-0017 Project Manager: Chad Snell | Reported: 01/14/19 16:38 |
|---|--|-----------------------------|

Notes and Definitions

| | |
|-----|---|
| DI | Duplicates or Matrix Spike Duplicates or Laboratory Control Sample Duplicates Relative Percent Difference is outside of control limits. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| RPD | Relative Percent Difference |
| ** | Methods marked with ** are non-accredited methods. |

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Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Chad Small [Signature] 1-1

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.

| | | | | | | |
|--|-----------------|----------------|--|-----------------|----------------|---|
| Relinquished by: (Signature) <i>[Signature]</i> | Date 1-10-19 | Time 2:30pm | Received by: (Signature) <i>[Signature]</i> | Date 1-10-19 | Time 2:30pm | Lab Use Only Received on ice: Y / N |
| Relinquished by: (Signature) | Date | Time | Received by: (Signature) | Date | Time | T1 <u>14.7</u> T2 <u>12.4</u> T3 <u>14.9</u> AVG Temp °C <u>14</u> |

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

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

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

Chain Of Custody Number:

Samples Received: 1/21/2019 3:45:00PM

Job Number: 17065-0017

Work Order: P901032

Project Name/Location: NE Chaco Com 173H

Report Reviewed By:



Date: 1/23/19

Walter Hinchman, Laboratory Director



Date: 1/23/19

Tim Cain, Project Manager



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. currently holds the appropriate and available Utah TNI certification NM009792018-1 for the data reported.

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

Project Name: NE Chaco Com 173H
Project Number: 17065-0017
Project Manager: Chad Snell

Reported:
01/23/19 12:56

Analytical Report for Samples

| Client Sample ID | Lab Sample ID | Matrix | Sampled | Received | Container |
|------------------|---------------|--------|----------|----------|------------------|
| East Section | P901032-01A | Soil | 01/21/19 | 01/21/19 | Glass Jar, 4 oz. |

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

 Project Name: NE Chaco Com 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 01/23/19 12:56

East Section
P901032-01 (Solid)

Reporting

| Analyte | Result | Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------|-------|----------|---------|----------|----------|-----------------|-------|
| Volatile Organics by EPA 8021 | | | | | | | | | |
| Benzene | ND | 25.0 | ug/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| Toluene | ND | 25.0 | ug/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| Ethylbenzene | ND | 25.0 | ug/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| p,m-Xylene | ND | 50.0 | ug/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| o-Xylene | ND | 25.0 | ug/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| Total Xylenes | ND | 25.0 | ug/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| Total BTEX | ND | 25.0 | ug/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| Surrogate: 4-Bromochlorobenzene-PID | | 102 % | | 50-150 | 1904012 | 01/22/19 | 01/22/19 | EPA 8021B | |
| Nonhalogenated Organics by 8015 | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ND | 20.0 | mg/kg | 1 | 1904012 | 01/22/19 | 01/22/19 | EPA 8015D | |
| Diesel Range Organics (C10-C28) | 68.3 | 25.0 | mg/kg | 1 | 1904010 | 01/22/19 | 01/22/19 | EPA 8015D | |
| Oil Range Organics (C28-C40+) | ND | 50.0 | mg/kg | 1 | 1904010 | 01/22/19 | 01/22/19 | EPA 8015D | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | | 105 % | | 50-150 | 1904012 | 01/22/19 | 01/22/19 | EPA 8015D | |
| Surrogate: n-Nonane | | 93.2 % | | 50-200 | 1904010 | 01/22/19 | 01/22/19 | EPA 8015D | |
| Anions by 300.0/9056A | | | | | | | | | |
| Chloride | 1200 | 20.0 | mg/kg | 1 | 1904008 | 01/21/19 | 01/22/19 | EPA 300.0/9056A | |

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

 Project Name: NE Chaco Com 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 01/23/19 12:56

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 |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 1904012 - Purge and Trap EPA 5030A
Blank (1904012-BLK1)

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | |
|---------------|----|------|-------|
| Benzene | ND | 25.0 | ug/kg |
| Toluene | ND | 25.0 | " |
| Ethylbenzene | ND | 25.0 | " |
| p,m-Xylene | ND | 50.0 | " |
| o-Xylene | ND | 25.0 | " |
| Total Xylenes | ND | 25.0 | " |
| Total BTEX | ND | 25.0 | " |

Surrogate: 4-Bromochlorobenzene-PID 8160 " 8000 102 50-150

LCS (1904012-BS1)

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | |
|---------------|-------|------|-------|-------|--|------|--------|
| Benzene | 4500 | 25.0 | ug/kg | 5000 | | 90.0 | 70-130 |
| Toluene | 4550 | 25.0 | " | 5000 | | 90.9 | 70-130 |
| Ethylbenzene | 4600 | 25.0 | " | 5000 | | 92.0 | 70-130 |
| p,m-Xylene | 9450 | 50.0 | " | 10000 | | 94.5 | 70-130 |
| o-Xylene | 4570 | 25.0 | " | 5000 | | 91.4 | 70-130 |
| Total Xylenes | 14000 | 25.0 | " | 15000 | | 93.4 | 70-130 |

Surrogate: 4-Bromochlorobenzene-PID 8280 " 8000 104 50-150

Matrix Spike (1904012-MS1)

Source: P901032-01

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | |
|---------------|-------|------|-------|-------|----|------|----------|
| Benzene | 4770 | 25.0 | ug/kg | 5000 | ND | 95.4 | 54.3-133 |
| Toluene | 4840 | 25.0 | " | 5000 | ND | 96.8 | 61.4-130 |
| Ethylbenzene | 4910 | 25.0 | " | 5000 | ND | 98.2 | 61.4-133 |
| p,m-Xylene | 10100 | 50.0 | " | 10000 | ND | 101 | 63.3-131 |
| o-Xylene | 4850 | 25.0 | " | 5000 | ND | 96.9 | 63.3-131 |
| Total Xylenes | 14900 | 25.0 | " | 15000 | ND | 99.5 | 63.3-131 |

Surrogate: 4-Bromochlorobenzene-PID 8380 " 8000 105 50-150

Matrix Spike Dup (1904012-MSD1)

Source: P901032-01

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | |
|---------------|-------|------|-------|-------|----|------|----------|------|----|
| Benzene | 4930 | 25.0 | ug/kg | 5000 | ND | 98.7 | 54.3-133 | 3.38 | 20 |
| Toluene | 4990 | 25.0 | " | 5000 | ND | 99.9 | 61.4-130 | 3.10 | 20 |
| Ethylbenzene | 5050 | 25.0 | " | 5000 | ND | 101 | 61.4-133 | 2.77 | 20 |
| p,m-Xylene | 10400 | 50.0 | " | 10000 | ND | 104 | 63.3-131 | 2.80 | 20 |
| o-Xylene | 5000 | 25.0 | " | 5000 | ND | 99.9 | 63.3-131 | 3.04 | 20 |
| Total Xylenes | 15400 | 25.0 | " | 15000 | ND | 102 | 63.3-131 | 2.88 | 20 |

Surrogate: 4-Bromochlorobenzene-PID 8020 " 8000 100 50-150

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| | | |
|---|--|-----------------------------|
| Enduring Resources, LLC 511 16th Street, Suite 700 Denver CO, 80202 | Project Name: NE Chaco Com 173H Project Number: 17065-0017 Project Manager: Chad Snell | Reported: 01/23/19 12:56 |
|---|--|-----------------------------|

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 1904010 - DRO Extraction EPA 3570

Blank (1904010-BLK1)

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---------------------------------|------|------|-------|------|--|------|--------|--|--|--|
| Diesel Range Organics (C10-C28) | ND | 25.0 | mg/kg | | | | | | | |
| Oil Range Organics (C28-C40+) | ND | 50.0 | " | | | | | | | |
| Surrogate: n-Nonane | 48.5 | | " | 50.0 | | 97.0 | 50-200 | | | |

LCS (1904010-BS1)

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---------------------------------|------|------|-------|------|--|------|--------|--|--|--|
| Diesel Range Organics (C10-C28) | 439 | 25.0 | mg/kg | 500 | | 87.9 | 38-132 | | | |
| Surrogate: n-Nonane | 46.9 | | " | 50.0 | | 93.8 | 50-200 | | | |

Matrix Spike (1904010-MS1)

Source: P901032-01

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---------------------------------|------|------|-------|------|------|------|--------|--|--|--|
| Diesel Range Organics (C10-C28) | 547 | 25.0 | mg/kg | 500 | 68.3 | 95.8 | 38-132 | | | |
| Surrogate: n-Nonane | 42.8 | | " | 50.0 | | 85.6 | 50-200 | | | |

Matrix Spike Dup (1904010-MSD1)

Source: P901032-01

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---------------------------------|------|------|-------|------|------|------|--------|------|----|--|
| Diesel Range Organics (C10-C28) | 553 | 25.0 | mg/kg | 500 | 68.3 | 97.0 | 38-132 | 1.07 | 20 | |
| Surrogate: n-Nonane | 44.8 | | " | 50.0 | | 89.6 | 50-200 | | | |

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

 Project Name: NE Chaco Com 173H
 Project Number: 17065-0017
 Project Manager: Chad Snell

 Reported:
 01/23/19 12:56

Nonhalogenated Organics by 8015 - Quality Control
Envirotech Analytical Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 1904012 - Purge and Trap EPA 5030A
Blank (1904012-BLK1)

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---|------|------|-------|------|--|-----|--------|--|--|--|
| Gasoline Range Organics (C6-C10) | ND | 20.0 | mg/kg | | | | | | | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.42 | | " | 8.00 | | 105 | 50-150 | | | |

LCS (1904012-BS2)

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---|------|------|-------|------|--|------|--------|--|--|--|
| Gasoline Range Organics (C6-C10) | 42.5 | 20.0 | mg/kg | 50.0 | | 85.0 | 70-130 | | | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.47 | | " | 8.00 | | 106 | 50-150 | | | |

Matrix Spike (1904012-MS2)

Source: P901032-01

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---|------|------|-------|------|----|------|--------|--|--|--|
| Gasoline Range Organics (C6-C10) | 47.6 | 20.0 | mg/kg | 50.0 | ND | 95.3 | 70-130 | | | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.32 | | " | 8.00 | | 104 | 50-150 | | | |

Matrix Spike Dup (1904012-MSD2)

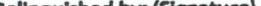

Source: P901032-01

Prepared: 01/22/19 0 Analyzed: 01/22/19 1

| | | | | | | | | | | |
|---|------|------|-------|------|----|------|--------|------|----|--|
| Gasoline Range Organics (C6-C10) | 44.7 | 20.0 | mg/kg | 50.0 | ND | 89.4 | 70-130 | 6.37 | 20 | |
| Surrogate: 1-Chloro-4-fluorobenzene-FID | 8.54 | | " | 8.00 | | 107 | 50-150 | | | |

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Additional Instructions:

| | | | | | | |
|---|-----------------|----------------|---|---------------|-----------------|--|
| Relinquished by: (Signature)  | Date 1-21-19 | Time 3:45pm | Received by: (Signature)  | Date 15455 | Time 1/21/19 | Lab Use Only Received on ice: <u>Y / N</u> T1 <u>18A</u> T2 _____ T3 _____ AVG Temp °C _____ |
| Relinquished by: (Signature) | Date | Time | Received by: (Signature) | Date | Time | |

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 laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

