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	NKMW1035732429
District RP	2RP-530
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party EOG Resources, Inc.	OGRID 7377
Contact Name Chase Settle	Contact Telephone 575-748-1471
Contact email Chase_Settle@eogresources.com	Incident # *(assigned by OCD)* NKMW1035732429
Contact mailing address 104 S. 4th Street, Artesia, NM 88210	

Location of Release Source

Latitude 33.13240 Longitude -104.13323
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Marshall APH Battery	Site Type Battery
Date Release Discovered 06/06/2010	API# 30-015-28543

Unit Letter	Section	Township	Range	County
F	9	19S	25E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 30	Volume Recovered (bbls)0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release	Please refer to the attached original C-141 form for 2RP-530 for cause of release and immediate action steps. EOG Resources is submitting for closure via the new form to formally close out this incident. All sampling and correspondence is also attached.

State of New Mexico
Oil Conservation Division

Incident ID	NKMW1035732429
District RP	2RP-530
Facility ID	
Application ID	

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: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 09/27/2021

email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NKMW1035732429
District RP	2RP-530
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?	☐ 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	NKMW1035732429
District RP	2RP-530
Facility ID	
Application ID	

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: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NKMW1035732429
District RP	2RP-530
Facility ID	
Application ID	

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: _____

State of New Mexico
Oil Conservation Division

Incident ID	NKMW1035732429
District RP	2RP-530
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: Chase Settle Title: Rep Safety and Environmental Sr

Signature: Chase Settle Date: 09/27/2021

email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Bradford Billings Date: 09/28/2021

Printed Name: Bradford Billings Title: Envi.Spec.A

RP#:	2RP-530
Location Name:	Marshall APH Battery
Current Status:	Landowner refuses access for remediation until agreement is in place; Agreement in progress. Delineation and workplan will be submitted the NM Tech/NMOCD once landowner allows access.

RECEIVED JUN 16 2010

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

nKmw1035732429

Release Notification and Corrective Action
OPERATOR ☒ Initial Report ☐ Final Report

Name of Company	OGRID Number	Contact
Yates Petroleum Corporation	25575	Amanda Trujillo
Address		Telephone No.
104 S. 4TH Street		575-748-1471
Facility Name	API Number	Facility Type / Order Number
Marshall APH Battery	30-015-28543	Battery / 2RP-

Surface Owner	Mineral Owner	Lease No.
Fee	Federal	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	9	19S	25E	1980	North	1980	West	Eddy

Latitude N33.13240 Longitude W104 13323

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Produced Water	30	0
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Check Valve Failure	06/06/2010	06/06/2010 - PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – NMOCD/Artesia	
By Whom? Amanda Trujillo – Yates Petroleum Corporation	Date and Hour 06/16/2010 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Upon Discovery of the spill the problem was isolated. A vacuum truck was dispatched to recover any standing fluids.

Describe Area Affected and Cleanup Action Taken.*
An approximate size of 15' x 75' was impacted. The impacted area is located along the back side of the berm. Soil from the pooling areas will be excavated and disposed of at an NMOCD approved facility. Vertical and horizontal delineation samples will taken and analysis ran for TPH, BTEX and Chlorides once all contaminated material has been removed. **Depth to Ground Water: <100' (approx. 260', per New Mexico Office of the State Engineer); Wellhead Protection Area: No; Distance to Surface Water Body: >1000'; SITE RANKING IS 0. Based on site ground water quality and enclosed analytical results.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: A. Trujillo

Printed Name: Amanda Trujillo

Title: Environmental Scientist

E-mail Address: atrujillo@yatespetroleum.com

Date: Wednesday, June 16, 2010 Phone: 575-748-4310

OIL CONSERVATION DIVISION

Approved by District Supervisor: Signed By Mike Bratcher

Approval Date: 3/21/11 Expiration Date:

Conditions of Approval: Attached ☐

Remediation per OCD Rules & Guidelines. **SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:** 4/21/11

2RP-530

* Attach Additional Sheets If Necessary

Bratcher, Mike, EMNRD

From: Amanda Trujillo [atrujillo@yatespetroleum.com]
Sent: Wednesday, June 16, 2010 5:19 PM
To: Bratcher, Mike, EMNRD
Cc: Jerry Fanning
Subject: Marshall APH Battery
Attachments: Marshall APH Battery.pdf

Mr. Mike Bratcher:

Yates Petroleum reports a release at the following location:

Marshall APH Battery
Sec. 9,Township 19 South, Range 25 East
Eddy County
Date of Release: 06/06/10
Approximately 30 barrels of produced water were released 0 barrels recovered
Cause of release has been isolated and repairs are in progress
Vacuum truck on site recovered standing fluids
Site will be evaluated and a work plan for remediation will be submitted for consideration.
Attached is the C-141

If you should have any questions please feel free to contact me at the number below.

Amanda N. Trujillo
Environmental Scientist
Yates Petroleum Corporation
Office 575-748-4310
Cell 575-703-6537
Email atrujillo@yatespetroleum.com

July 17, 2020 Reference No. 11215161

New Mexico Oil Conservation Division
District 2
Mr. Robert Hamlet
Ms. Victoria Venegas
811 S. First St.
Artesia, New Mexico 88210

Dear Ms. Venegas and Mr. Hamlet

Re: Site Assessment and Closure Request
Marshall APH Battery
Remediation Permit Number 2RP-530
Eddy County, New Mexico

GHD Services Inc. (GHD), on behalf of EOG Resources, Inc. (EOG), respectfully submits this Soil Assessment Report and Request for Closure for the Remediation Permit Number 2RP-530. This Report provides documentation detailing test pit excavation, soil sampling and soil removal at the Marshall APH Battery release location (hereafter referred to as the "Site"). The Site is located in Unit F, Section 9, Township 19 South, Range 25 East, on private land approximately 12 miles southwest of Artesia, in Eddy County, New Mexico (refer to Figure 1). GPS coordinates for the Site are 32.67709 N, -104.49196 W (Figure 1).

1. Release Information and Historical Response Activities

A release of 30 barrels (bbls) of produced water from a failed check valve was discovered at the Site on June 6, 2010. An Initial Form C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD) by Yates Petroleum on June 16, 2010 describing an impacted area of approximately 75 feet by 15 feet, fully contained inside of the battery berm south of the tanks. The Initial C-141 form was approved by the NMOCD on March 21, 2011 and assigned incident number 2RP-530.

In December 2018 EOG conducted an assessment of the release area and excavated approximately 1 foot of soils in this area. Using electrical conductivity methods to field screen near-surface soils, EOG generally found soils in the top 6 inches to be in excess of 600 parts per million (ppm) for chlorides and soils at the 1-foot level to be below this threshold. Based on these results, approximately 140 cubic yards (cy) of impacted soils representing the top 1 foot of soils were removed in January 2019 for off-site disposal at the Lea Land LLC disposal facility near Carlsbad, NM. A Photo log of the excavation and summary table of December 2018 EOG EC field screening results are presented in Appendix A.

2. Regulatory Framework

The nearest water well to the Site from which to ascertain depth to water information is located approximately 0.28 miles east/northeast of the Site. Information on this well was obtained from the United

GHD
6121 Indian School Road NE Suite 200 Albuquerque New Mexico 87110 USA
T 505 884 0672 F 505 884 4932 W www.ghd.com

States Geological Survey (USGS), National Water Information System and indicates a 2012 depth to water of approximately 120 feet below ground surface (bgs). The New Mexico Office of the State Engineer's (NMOSE) database shows one well (Yellow Tank) located approximately 0.65 miles from the Site with an original depth to water of 260 feet bgs and another Howell Ranch well (Middle Well), located 2.8 miles from the Site with a depth to water listed at 300 feet bgs. The USGS and NMOSE well record information is included in Appendix B.

Additional USGS resources were utilized to determine proximity to surface water features potentially impacting Closure Criteria in accordance with NMAC 19.15.29.12.C. The Site is outside of the limiting distances from any significant watercourse, as defined in 19.15.17.7 NMAC, and therefore a greater than 100 feet depth to groundwater is used to for Closure Criteria. The corresponding cleanup levels from Table 1 19.15.29 NMAC are as follows:

10 mg/kg (milligrams per kilogram) for benzene, 50 mg/kg for BTEX (benzene, toluene, ethylbenzene and xylenes), 2,500 mg/kg for TPH (total petroleum hydrocarbons-full range) and 20,000 mg/kg for chlorides.

However, during the Site Assessment detailed below, a chloride field screening concentration of 600 ppm was used to meet HMAC 19.15.29.13 guidance.

3. Soil Assessment

GHD conducted additional Site assessment of the 2RP-530 release on June 30, 2020. A total of 11 test pits were excavated and soil samples were collected and analyzed to provide confirmation and further vertical delineation of the impacted area (Figure 2).

Under the direction of GHD, EOG's contractor, BDS Oilfield Services (BDS), mobilized to the Site on June 30, 2020, to provide some confirmation and further delineation of the 2019 EOG excavation in the release area. Test pits TP-1 through TP-11 were excavated across the formerly impacted area as depicted on Figure 2. A GHD representative collected samples from the backhoe bucket at two (2) feet depth intervals at each location. Samples were field screened with Hach® chloride QuanTab® test strips and, when petroleum hydrocarbon odors were present, a photo-ionization detector (PID). Only one location, TP-1, exhibited any hydrocarbon odors. Samples at that location showed PID readings of 235.6 and 23.5 ppm at 2- and 4-foot depths, respectively. All chloride field screening results were below the 600 ppm threshold at 2- and at 4- feet bgs. Table 1 presents a summary of chloride field screening and laboratory results for each sample.

Samples were transported under chain-of-custody to Hall Environmental Analysis Laboratory (Hall) of Albuquerque, New Mexico and were analyzed for BTEX by EPA Method 8021, TPH by EPA Method 8015 and chlorides by EPA Method 300. Chloride concentrations in all submitted samples were below the 600 ppm Site closure criteria. Concentrations of BTEX and TPH were all below the laboratory reporting limit (non-detect) for these constituents.

Sample locations and analytical results are presented in Figure 2 – Test Pit Locations and Sample Concentrations Map and are summarized on Table 1– Summary of Soil Analytical Data. Laboratory

analytical reports are included in Appendix C. All excavated soils removed during the GHD Site assessment were placed back in the test pit.

4. Conclusions and Recommendations

Based on historical Site data and the recent supplemental Site Assessment, GHD and EOG conclude the following:

- 30 bbls of produced water were released at the Site in June 2010; the release was assigned 2RP-530 by the NMOCD.
- EOG conducted a field screening event in January 2019 using EC as a chloride soil screening tool.
- EOG removed 140 cy of chloride impacted soils from the site and transported them to the Lea Land disposal facility.
- GHD conducted a confirmatory/supplemental Site Assessment on June 30, 2020.
- All laboratory sample results from 11 test pit locations were below 600 ppm for chloride and all hydrocarbon results were non-detect.

4.1 Site Closure Request – 2RP-530

Based on the 2019 EOG Site assessment, soil removal, and the June 2020 supplemental Site assessment, EOG/GHD recommend No Further Action for the Site and request Site Closure for 2RP-530.

Please contact Jeff Walker in Albuquerque at 505-884-0672 or Tom Larson in Midland at 432-203-8671 to discuss further.

Sincerely,

GHD

Jeff Walker
Project Manager

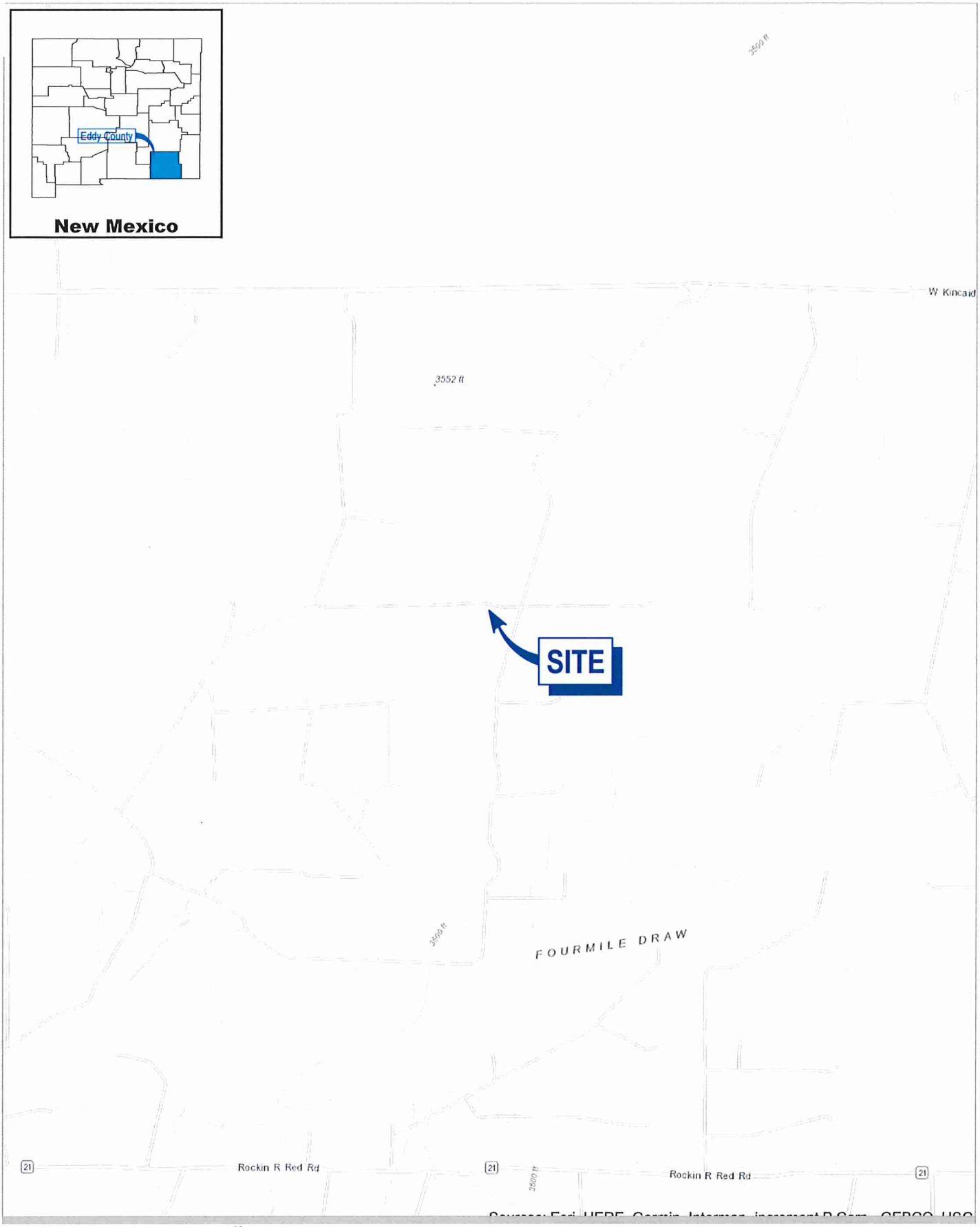
Thomas C. Larson
Operations Manager

TL/mk/01

Attachments:

Figure 1 – Site Location Map
Figure 2 – Site Detail and Analytical Results Map
Table 1 – Soil Analytical Data Summary
Appendix A – 2019 EOG EC Soils Field Screening Summary and Excavation Photo Log
Appendix B – USGS and NMOSE Water Data
Appendix C – Analytical Laboratory Reports

Figures



0 1000 2000 ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

N

GHD

EOG RESOURCES
EDDY COUNTY, NEW MEXICO
MARSHALL APH BATTERY

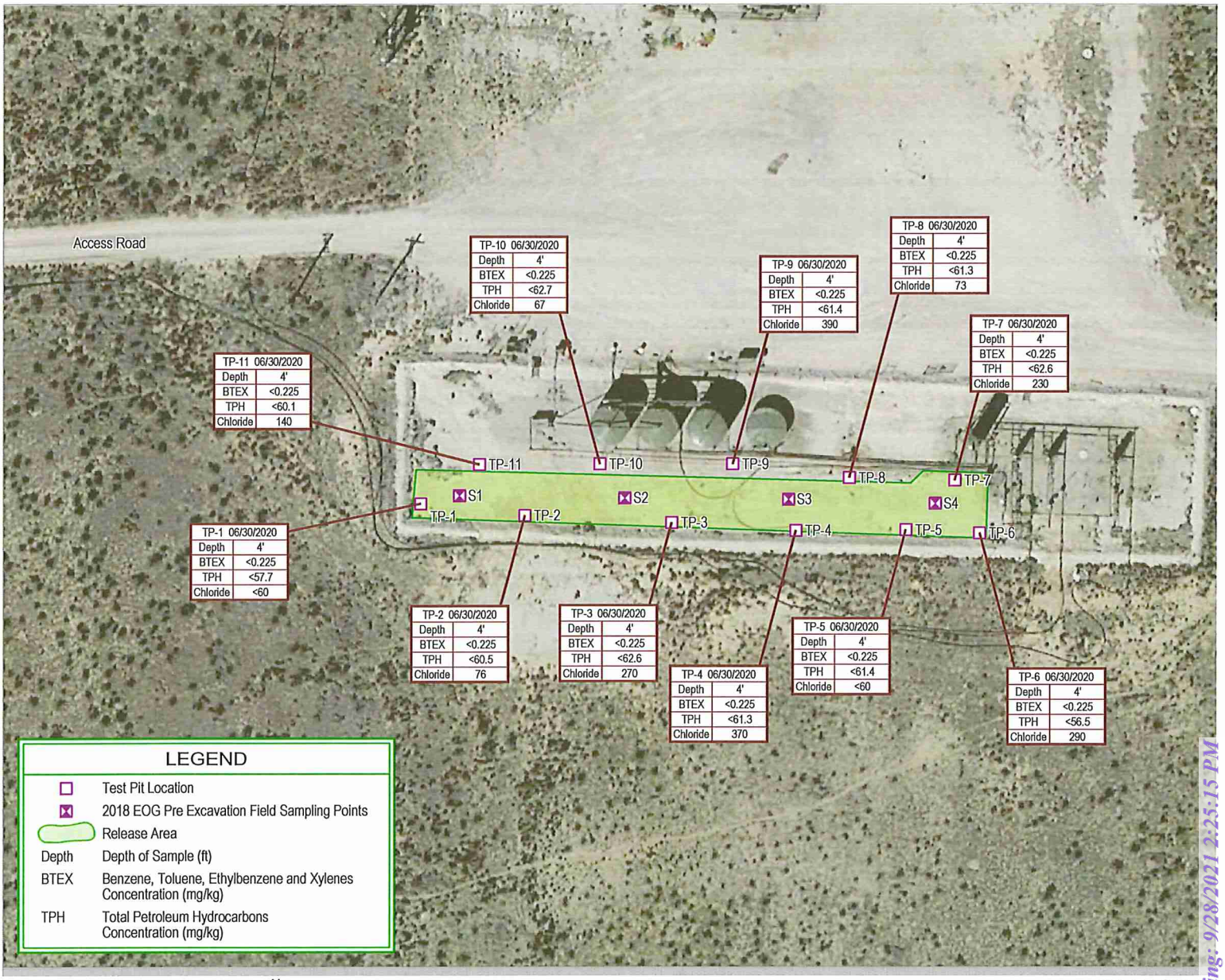
Project No. **11214755**
Report No. **001**
Date **July 2020**

SITE LOCATION MAP

FIGURE 1

Filename: I:\CAD\Files\Eight Digit Job Numbers\1121----\11215161-EOG-Marshall APH Battery\11215161-01\11215161-01(001)\11215161-01(001)GN-DL001.dwg
Plot Date: 06 July 2020 3:28 PM

Data Source: USGS 7.5 Minute Quad "Dayton and Parish Ranch, New Mexico"
Lat/Long: 32.67710° North, 104.49179° West



0 30 60 ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

N

GHD

EOG RESOURCE
EDDY COUNTY, NEW
MARSHALL APH BA

TEST PIT LOCATIO
SAMPLE CONCENTRA

Filename: I:\CAD\Files\Eight Digit Job Numbers\1121----\11215161-EOG-Marshall APH Battery\11215161-01\11215161-01(001)\11215161-01(001)GN-DL001.dwg
Plot Date: 14 July 2020 12:58 PM

Data Source: Microsoft

Tables

Table 1
Marshal APH Battery
Summary of Soil Analytical Data

Sample ID	Depth (feet)	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	BTEX	TPH (GRO)	TPH (DRO)	TPH (MRO)	Tota TPH
TP-1-2	2	6/30/2020									
S-11215161-063020-ZC-TP-1-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<8.7	<44.0	<57.7
TP-2-2	2	6/30/2020									
S-11215161-063020-ZC-TP-2-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.2	<46	<60.5
TP-3-2	2	6/30/2020									
S-11215161-063020-ZC-TP-3-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.6	<48	<62.6
TP-4-2	2	6/30/2020									
S-11215161-063020-ZC-TP-4-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.3	<47	<61.3
TP-5-2	2	6/30/2020									
S-11215161-063020-ZC-TP-5-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.4	<47	<61.4
TP-6-2	2	6/30/2020									
S-11215161-063020-ZC-TP-6-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<8.5	<43	<56.5
TP-7-2	2	6/30/2020									
S-11215161-063020-ZC-TP-7-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.6	<48	<62.6
TP-8-2	2	6/30/2020									
S-11215161-063020-ZC-TP-8-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.3	<47	<61.3
TP-9-2	2	6/30/2020									
S-11215161-063020-ZC-TP-9-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.4	<47	<61.4
TP-10-2	2	6/30/2020									
S-11215161-063020-ZC-TP-10-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.7	<48	<62.7
TP-11-2	2	6/30/2020									
S-11215161-063020-ZC-TP-11-4'	4	6/30/2020	<0.025	<0.050	<0.050	<0.100	<0.225	<5.0	<9.1	<46	<60.1
NMOCD Table 1 Closure Limits			10	Total BTEX: 50				Total TPH: 2,500			

Notes:

All sample results are in milligrams per kilogram
NMOCD = New Mexico Oil Conservation Division
Table 1 Closure Limits = In accordance with 19.15.29 Release Rule
NA = Not Analyzed
BTEX =Benzene, Toluene, Ethylbenzene, Xylenes
TPH = Total Petroleum Hydrocarbons
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MRO = Motor Oil Range Organics
Shading indicates a field screening result

Appendices

Appendix A
2019 EOG EC Soils Field Screening Summary and Excavation Photo Log

Marshal APH Battery Summary of Soil Analytical Data			
Area	Depth	EC Reading	Chloride Conversion (ppm)
S1-6"	6"	0.17	170
S1-1'	1'	0.16	160
S2-6"	6"	0.42	420
S2-1'	1'	0.26	260
S-3-6"	6"	1.81	1810
S-3-1'	1'	0.51	510
S-4-6"	6"	1.16	1160
S-4-1'	1'	0.43	430
			EC Reading X 1000 ~ ppm

Photo 1 - Marshal APH Battery

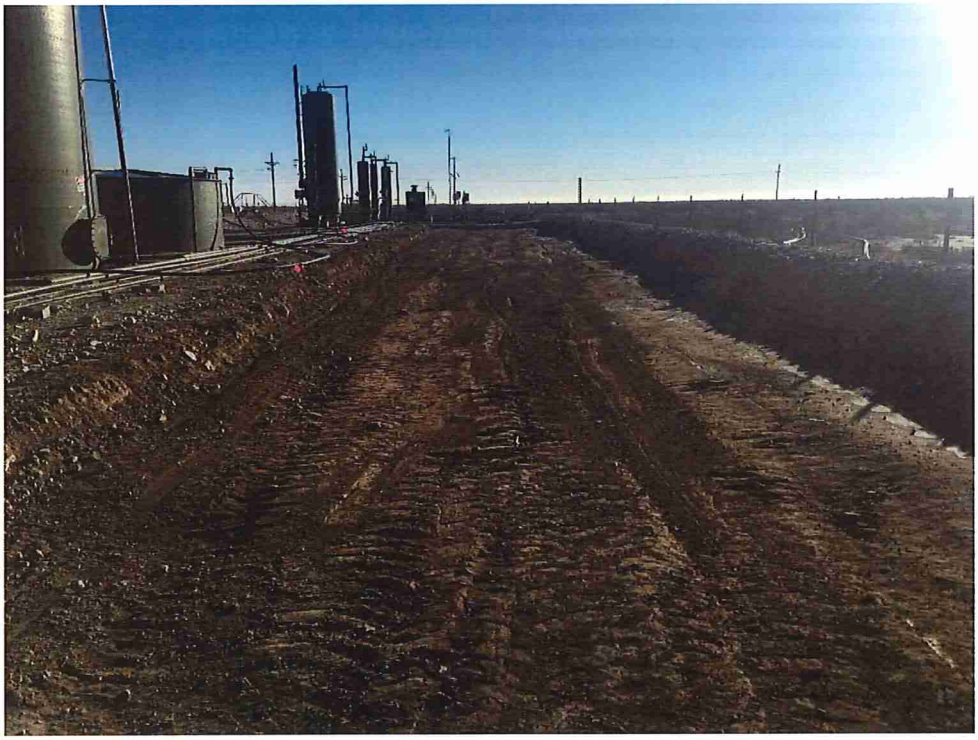


Photo 2 - Excavation looking East

Excavation Photo Log

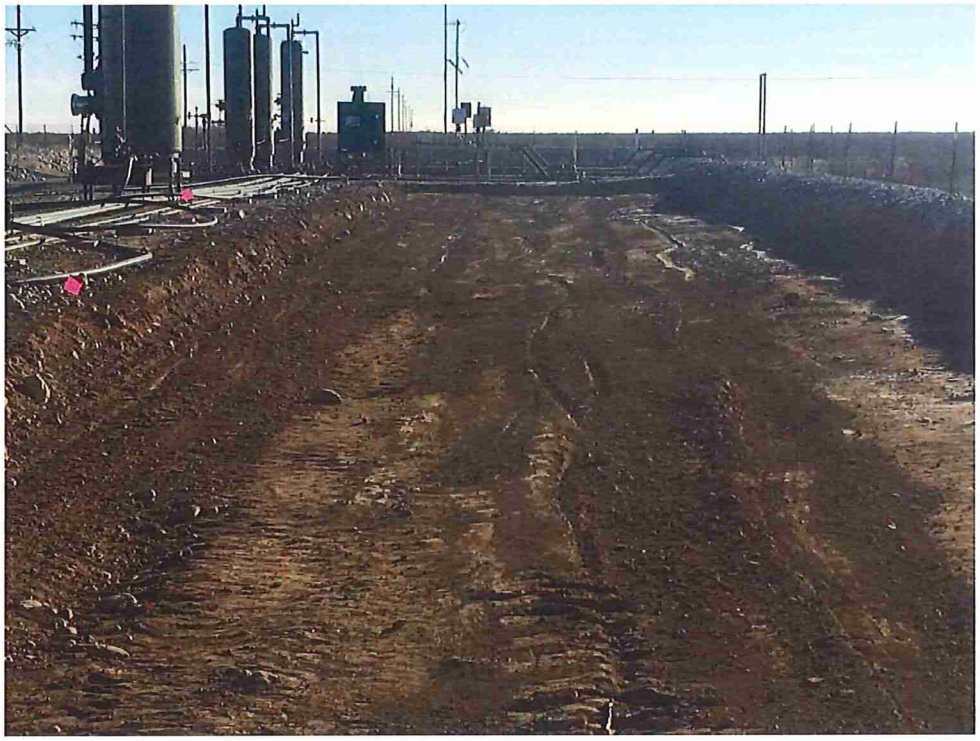


Photo 3 - Excavation looking West

Appendix B
USGS and NMOSE Water Data

ard Layer FIRMette

FEMA

Feet
1,500
2,000
1:6,000
104°29'12"W 32°40'24"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL 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 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
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximat point selected by the user and does not represe 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 6/16/2020 at 10:46 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 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 panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FIELD ENGR. LOG

Form WR-23

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Mr. Hugh Kincaid, (M.B. Kincaid)

Street and Number Queen Route

City Carlsbad, State New Mexico.

Well was drilled under Permit No. RA-5333 and is located in the

NE ¼ SE ¼ ¼ of Section 7 Twp. 19S Rge. 25E

(B) Drilling Contractor Loyd M. Osbourn License No. WD-353

Street and Number 1011 Hermosa Dr.

City Artesia, State New Mexico.

Drilling was commenced 4-18 1967

Drilling was completed 5-5 1967

(Plat of 640 acres)

Elevation at top of casing in feet above sea level ______ Total depth of well 315 ft.

State whether well is shallow or artesian Shallow Depth to water upon completion 260 ft.

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	275	290	15	Yellow Sand (little water)
2	290	303	13	Sand, Gravel, Water.
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
7" od	24	8 r	1	315	316	Collar	280	312

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5 PLUGGING RECORD

Name of Plugging Contractor ______ License No. ______

Street and Number ______ City ______ State ______

230	275	45	Yellow	Sand
275	290	15	Yellow	Yellow Sand & Water.
290	303	13	Yellow	Sand, Gravel & Water.
303	315	12	Red	Red.
T.D.	315 Ft.			

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 well.

Well Driller

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well M.B. Kincaid Est. Owner's Well No. _____

Street or Post Office Address Rt. 1. Box 108

City and State Artesia, New Mexico 88210

Well was ~~drilled under~~ cleaned out Permit No. RA-6436 and is located in the:

a. _____ ¼ _____ ¼ NW ¼ SE ¼ of Section 12 Township 19S Range 24E N.M.P.M.

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

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

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

(B) Drilling Contractor Tidwell Drilling License No. WD-406

Address Box 17, Rt. 1. Artesia, New Mexico 88210

~~Drilling Began~~ cleaning out Jan. 30,79 Completed Feb.4, 1979 Type tools cable Size of hole _____ in.

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

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 300 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
			cleaning out	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
7	20	8	0	204		collar	none	

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 7. REMARKS AND ADDITIONAL INFORMATION

Cleaned well out to bottom and run 204 feet of 7 inch casing to prevent cavings from 100' to 200' from falling in well.

'79 FEB 6 AM 8 17
STATE ENGINEER OFFICE
ROSWELL, N. M.

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.

Clyde J. Tidwell
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All questions, 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 plugging record, only Section 1(a) and Section 5 need be completed.

Google Earth

feet 1000
meters 500

USGS science for a changing world

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater Geograp United

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 324041104294801

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 324041104294801 19S.25E.08.42222

Available data for this site Groundwater: Field measurements GO

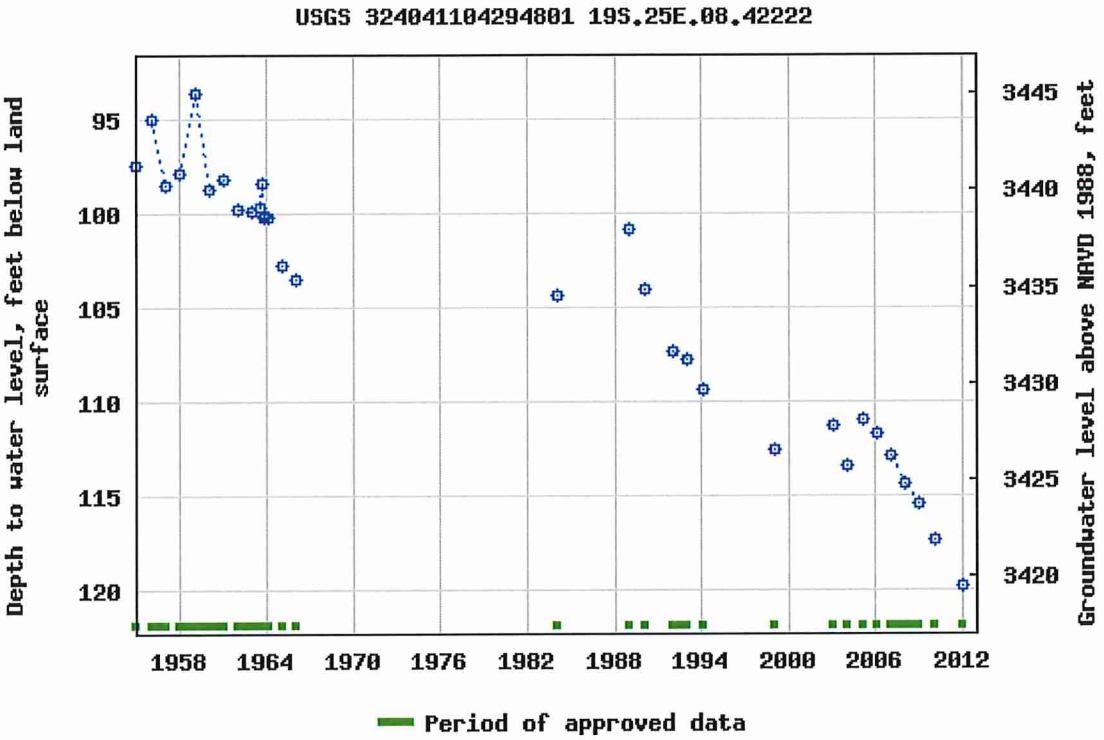
Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°40'41", Longitude 104°29'48" NAD27
Land-surface elevation 3,539 feet above NAVD88
The depth of the well is 142 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVME

Output formats

Table of data
Tab-separated data

Graph of data

Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2020-06-12 18:31:29 EDT
0.87 0.64 nadww01

Appendix C
Analytical Laboratory Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 06, 2020

Jeff Walker
GHD
6121 Indian School Road, NE #200
Albuquerque, NM 87110
TEL: (505) 884-0672
FAX:

RE: Marshall OrderNo.: 2007001

Dear Jeff Walker:

Hall Environmental Analysis Laboratory received 11 sample(s) on 7/1/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **2007001**
Date Reported: **7/6/2020**

CLIENT: GHD
Project: Marshall
Lab Order: 2007001

Lab ID: 2007001-001
Client Sample ID: S-11215161-063020-ZC-TP-1-4
Collection Date: 6/30/2020 8:40:00 AM
Matrix: MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	7/1/2020 1:40:53 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **CLP**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	7/1/2020 11:31:33 AM	53438
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	7/1/2020 11:31:33 AM	53438
Surr: DNOP	91.2	55.1-146		%Rec	1	7/1/2020 11:31:33 AM	53438
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	7/1/2020 10:30:02 AM	G70053
Surr: BFB	97.3	66.6-105		%Rec	1	7/1/2020 10:30:02 AM	G70053
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	7/1/2020 10:30:02 AM	B70053
Toluene	ND	0.044		mg/Kg	1	7/1/2020 10:30:02 AM	B70053
Ethylbenzene	ND	0.044		mg/Kg	1	7/1/2020 10:30:02 AM	B70053
Xylenes, Total	ND	0.088		mg/Kg	1	7/1/2020 10:30:02 AM	B70053
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/1/2020 10:30:02 AM	B70053

Lab ID: 2007001-002
Client Sample ID: S-11215161-063020-ZC-TP-2-4
Collection Date: 6/30/2020 9:10:00 AM
Matrix: MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **CAS**
Chloride	76	60		mg/Kg	20	7/1/2020 11:25:02 AM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/1/2020 11:41:40 AM	53438
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/1/2020 11:41:40 AM	53438
Surr: DNOP	94.5	55.1-146		%Rec	1	7/1/2020 11:41:40 AM	53438
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/1/2020 10:53:36 AM	G70053
Surr: BFB	99.2	66.6-105		%Rec	1	7/1/2020 10:53:36 AM	G70053
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	7/1/2020 10:53:36 AM	B70053
Toluene	ND	0.046		mg/Kg	1	7/1/2020 10:53:36 AM	B70053
Ethylbenzene	ND	0.046		mg/Kg	1	7/1/2020 10:53:36 AM	B70053
Xylenes, Total	ND	0.093		mg/Kg	1	7/1/2020 10:53:36 AM	B70053
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/1/2020 10:53:36 AM	B70053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **2007001**
Date Reported: **7/6/2020**

CLIENT: GHD
Project: Marshall

Lab Order: 2007001

Lab ID: 2007001-003
Client Sample ID: S-11215161-063020-ZC-TP-3-4

Collection Date: 6/30/2020 9:25:00 AM
Matrix: MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **CAS**
Chloride	270	60		mg/Kg	20	7/1/2020 11:37:22 AM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/1/2020 11:51:50 AM	53438
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2020 11:51:50 AM	53438
Surr: DNOP	137	55.1-146		%Rec	1	7/1/2020 11:51:50 AM	53438
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	7/1/2020 11:17:24 AM	G70053
Surr: BFB	101	66.6-105		%Rec	1	7/1/2020 11:17:24 AM	G70053
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	7/1/2020 11:17:24 AM	B70053
Toluene	ND	0.044		mg/Kg	1	7/1/2020 11:17:24 AM	B70053
Ethylbenzene	ND	0.044		mg/Kg	1	7/1/2020 11:17:24 AM	B70053
Xylenes, Total	ND	0.087		mg/Kg	1	7/1/2020 11:17:24 AM	B70053
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/1/2020 11:17:24 AM	B70053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **2007001**
Date Reported: **7/6/2020**

CLIENT: GHD
Project: Marshall

Lab Order: 2007001

Lab ID: 2007001-004 **Collection Date:** 6/30/2020 9:40:00 AM
Client Sample ID: S-11215161-063020-ZC-TP-4-4 **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	370	60		mg/Kg	20	7/1/2020 11:49:44 AM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/1/2020 12:01:59 PM	53438
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2020 12:01:59 PM	53438
Surr: DNOP	85.3	55.1-146		%Rec	1	7/1/2020 12:01:59 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	7/1/2020 11:40:52 AM	G70053
Surr: BFB	103	66.6-105		%Rec	1	7/1/2020 11:40:52 AM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.022		mg/Kg	1	7/1/2020 11:40:52 AM	B70053
Toluene	ND	0.043		mg/Kg	1	7/1/2020 11:40:52 AM	B70053
Ethylbenzene	ND	0.043		mg/Kg	1	7/1/2020 11:40:52 AM	B70053
Xylenes, Total	ND	0.087		mg/Kg	1	7/1/2020 11:40:52 AM	B70053
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	7/1/2020 11:40:52 AM	B70053

Lab ID: 2007001-005 **Collection Date:** 6/30/2020 10:05:00 AM
Client Sample ID: S-11215161-063020-ZC-TP-5-4 **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	7/1/2020 12:02:05 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/1/2020 12:12:13 PM	53438
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2020 12:12:13 PM	53438
Surr: DNOP	89.2	55.1-146		%Rec	1	7/1/2020 12:12:13 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	7/1/2020 12:04:38 PM	G70053
Surr: BFB	101	66.6-105		%Rec	1	7/1/2020 12:04:38 PM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	7/1/2020 12:04:38 PM	B70053
Toluene	ND	0.037		mg/Kg	1	7/1/2020 12:04:38 PM	B70053
Ethylbenzene	ND	0.037		mg/Kg	1	7/1/2020 12:04:38 PM	B70053
Xylenes, Total	ND	0.074		mg/Kg	1	7/1/2020 12:04:38 PM	B70053
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/1/2020 12:04:38 PM	B70053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **2007001**
Date Reported: **7/6/2020**

CLIENT: GHD
Project: Marshall

Lab Order: 2007001

Lab ID: 2007001-006
Client Sample ID: S-11215161-063020-ZC-TP-6-4

Collection Date: 6/30/2020 10:40:00 AM
Matrix: MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	290	60		mg/Kg	20	7/1/2020 12:14:25 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	7/1/2020 12:22:23 PM	53438
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	7/1/2020 12:22:23 PM	53438
Surr: DNOP	89.8	55.1-146		%Rec	1	7/1/2020 12:22:23 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	7/1/2020 12:28:09 PM	G70053
Surr: BFB	102	66.6-105		%Rec	1	7/1/2020 12:28:09 PM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	7/1/2020 12:28:09 PM	B70053
Toluene	ND	0.037		mg/Kg	1	7/1/2020 12:28:09 PM	B70053
Ethylbenzene	ND	0.037		mg/Kg	1	7/1/2020 12:28:09 PM	B70053
Xylenes, Total	ND	0.074		mg/Kg	1	7/1/2020 12:28:09 PM	B70053
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/1/2020 12:28:09 PM	B70053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Lab Order:** 2007001
Project: Marshall

Lab ID: 2007001-007 **Collection Date:** 6/30/2020 10:55:00 AM
Client Sample ID: S-11215161-063020-ZC-TP-7-4 **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	230	60		mg/Kg	20	7/1/2020 12:26:47 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/1/2020 12:32:32 PM	53438
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2020 12:32:32 PM	53438
Surr: DNOP	85.1	55.1-146		%Rec	1	7/1/2020 12:32:32 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	7/1/2020 12:51:52 PM	G70053
Surr: BFB	99.5	66.6-105		%Rec	1	7/1/2020 12:51:52 PM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	7/1/2020 12:51:52 PM	B70053
Toluene	ND	0.043		mg/Kg	1	7/1/2020 12:51:52 PM	B70053
Ethylbenzene	ND	0.043		mg/Kg	1	7/1/2020 12:51:52 PM	B70053
Xylenes, Total	ND	0.086		mg/Kg	1	7/1/2020 12:51:52 PM	B70053
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/1/2020 12:51:52 PM	B70053

Lab ID: 2007001-008 **Collection Date:** 6/30/2020 11:20:00 AM
Client Sample ID: S-11215161-063020-ZC-TP-8-4 **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	73	60		mg/Kg	20	7/1/2020 12:39:09 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/1/2020 12:42:40 PM	53438
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2020 12:42:40 PM	53438
Surr: DNOP	113	55.1-146		%Rec	1	7/1/2020 12:42:40 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	7/1/2020 1:15:24 PM	G70053
Surr: BFB	101	66.6-105		%Rec	1	7/1/2020 1:15:24 PM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.015		mg/Kg	1	7/1/2020 1:15:24 PM	B70053
Toluene	ND	0.031		mg/Kg	1	7/1/2020 1:15:24 PM	B70053
Ethylbenzene	ND	0.031		mg/Kg	1	7/1/2020 1:15:24 PM	B70053
Xylenes, Total	ND	0.062		mg/Kg	1	7/1/2020 1:15:24 PM	B70053
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/1/2020 1:15:24 PM	B70053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **2007001**
Date Reported: **7/6/2020**

CLIENT: GHD
Project: Marshall

Lab Order: 2007001

Lab ID: 2007001-009
Client Sample ID: S-11215161-063020-ZC-TP-9-4

Collection Date: 6/30/2020 11:40:00 AM
Matrix: MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	390	60		mg/Kg	20	7/1/2020 12:51:30 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/1/2020 12:52:47 PM	53438
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2020 12:52:47 PM	53438
Surr: DNOP	90.8	55.1-146		%Rec	1	7/1/2020 12:52:47 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	7/1/2020 1:39:03 PM	G70053
Surr: BFB	101	66.6-105		%Rec	1	7/1/2020 1:39:03 PM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	7/1/2020 1:39:03 PM	B70053
Toluene	ND	0.035		mg/Kg	1	7/1/2020 1:39:03 PM	B70053
Ethylbenzene	ND	0.035		mg/Kg	1	7/1/2020 1:39:03 PM	B70053
Xylenes, Total	ND	0.069		mg/Kg	1	7/1/2020 1:39:03 PM	B70053
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/1/2020 1:39:03 PM	B70053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **2007001**
Date Reported: **7/6/2020**

CLIENT: GHD
Project: Marshall

Lab Order: 2007001

Lab ID: 2007001-010 **Collection Date:** 6/30/2020 11:50:00 AM
Client Sample ID: S-11215161-063020-ZC-TP-10-4 **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	67	60		mg/Kg	20	7/1/2020 1:28:32 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/1/2020 1:02:53 PM	53438
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2020 1:02:53 PM	53438
Surr: DNOP	87.7	55.1-146		%Rec	1	7/1/2020 1:02:53 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	7/1/2020 2:26:14 PM	G70053
Surr: BFB	101	66.6-105		%Rec	1	7/1/2020 2:26:14 PM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.022		mg/Kg	1	7/1/2020 2:26:14 PM	B70053
Toluene	ND	0.045		mg/Kg	1	7/1/2020 2:26:14 PM	B70053
Ethylbenzene	ND	0.045		mg/Kg	1	7/1/2020 2:26:14 PM	B70053
Xylenes, Total	ND	0.089		mg/Kg	1	7/1/2020 2:26:14 PM	B70053
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/1/2020 2:26:14 PM	B70053

Lab ID: 2007001-011 **Collection Date:** 6/30/2020 12:10:00 PM
Client Sample ID: S-11215161-063020-ZC-TP-11-4 **Matrix:** MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	140	60		mg/Kg	20	7/1/2020 2:05:34 PM	53441
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	7/1/2020 1:12:58 PM	53438
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/1/2020 1:12:58 PM	53438
Surr: DNOP	111	55.1-146		%Rec	1	7/1/2020 1:12:58 PM	53438
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	7/1/2020 2:49:54 PM	G70053
Surr: BFB	98.8	66.6-105		%Rec	1	7/1/2020 2:49:54 PM	G70053
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.022		mg/Kg	1	7/1/2020 2:49:54 PM	B70053
Toluene	ND	0.044		mg/Kg	1	7/1/2020 2:49:54 PM	B70053
Ethylbenzene	ND	0.044		mg/Kg	1	7/1/2020 2:49:54 PM	B70053
Xylenes, Total	ND	0.088		mg/Kg	1	7/1/2020 2:49:54 PM	B70053
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/1/2020 2:49:54 PM	B70053

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Lab Order:** 2007001
Project: Marshall

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007001**

06-Jul-20

Client: GHD

Project: Marshall

Sample ID: **MB-53441**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **53441**	RunNo: **70052**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2434229** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-53441**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **53441**	RunNo: **70052**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2434230** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007001**

06-Jul-20

Client: GHD
Project: Marshall

Sample ID: **MB-53426**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **53426**	RunNo: **70044**
Prep Date: **6/30/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433515** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		95.0	55.1	146			

Sample ID: **MB-53438**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **53438**	RunNo: **70044**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433516** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.0	55.1	146			

Sample ID: **LCS-53426**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **53426**	RunNo: **70044**
Prep Date: **6/30/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433518** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		83.0	55.1	146			

Sample ID: **LCS-53438**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **53438**	RunNo: **70044**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433519** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.0	70	130			
Surr: DNOP	4.2		5.000		83.2	55.1	146			

Sample ID: **2007001-011AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-11215161-063020-**	Batch ID: **53438**	RunNo: **70044**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433704** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.7	48.54	0	94.3	47.4	136			
Surr: DNOP	4.1		4.854		84.5	55.1	146			

Sample ID: **2007001-011AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-11215161-063020-**	Batch ID: **53438**	RunNo: **70044**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433705** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	49.85	0	90.0	47.4	136	2.09	43.4	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007001**

06-Jul-20

Client: GHD

Project: Marshall

Sample ID: **2007001-011AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **S-11215161-063020-** Batch ID: **53438** RunNo: **70044**

Prep Date: **7/1/2020** Analysis Date: **7/1/2020** SeqNo: **2433705** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		4.985		79.8	55.1	146	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007001**

06-Jul-20

Client: GHD

Project: Marshall

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G70053**	RunNo: **70053**
Prep Date:	Analysis Date: **7/1/2020**	SeqNo: **2434081** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	66.6	105			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G70053**	RunNo: **70053**
Prep Date:	Analysis Date: **7/1/2020**	SeqNo: **2434082** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	80	120			
Surr: BFB	1100		1000		114	66.6	105			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007001**

06-Jul-20

Client: GHD

Project: Marshall

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B70053**	RunNo: **70053**
Prep Date:	Analysis Date: **7/1/2020**	SeqNo: **2434145** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B70053**	RunNo: **70053**
Prep Date:	Analysis Date: **7/1/2020**	SeqNo: **2434147** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.2	80	120			
Toluene	0.94	0.050	1.000	0	94.4	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.9	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID: **2007001-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-11215161-063020-**	Batch ID: **B70053**	RunNo: **70053**
Prep Date:	Analysis Date: **7/2/2020**	SeqNo: **2434166** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.022	0.8818	0	85.4	78.5	119			
Toluene	0.75	0.044	0.8818	0.009524	84.3	75.7	123			
Ethylbenzene	0.73	0.044	0.8818	0	83.2	74.3	126			
Xylenes, Total	2.2	0.088	2.645	0	84.3	72.9	130			
Surr: 4-Bromofluorobenzene	0.96		0.8818		109	80	120			

Sample ID: **2007001-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-11215161-063020-**	Batch ID: **B70053**	RunNo: **70053**
Prep Date:	Analysis Date: **7/2/2020**	SeqNo: **2434167** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.022	0.8818	0	148	78.5	119	53.7	20	RS
Toluene	1.3	0.044	0.8818	0.009524	147	75.7	123	54.0	20	RS
Ethylbenzene	1.3	0.044	0.8818	0	148	74.3	126	56.2	20	RS
Xylenes, Total	3.9	0.088	2.645	0	149	72.9	130	55.6	20	RS
Surr: 4-Bromofluorobenzene	0.96		0.8818		109	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: GHD | Work Order Number: 2007001 | RcptNo: 1

Received By: Juan Rojas 7/1/2020 9:20:00 AM

Completed By: Leah Baca 7/1/2020 9:54:20 AM

Reviewed By: LB 7/1/20

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: JR 7/1/20

JR 7/1/20

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	Good				

Chain-of-Custody Record

Client: GHD

Mailing Address: On File

Phone #: 505 377 3920

email or Fax#: Jeff.Walker@GHD.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☑ Rush Same Day !!!

Project Name: Marshall

Project #: 11215161

Project Manager: Jeff Walker

Sampler: ZC

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.3-0.1=3.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2007001	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Full Range TPH	Chloride	BTEX
06/30	0840	S	11215161-063020-ZC-TP-1-4	1 4oz Jar		-001											X	X	X
	0910	S	11215161-063020-ZC-TP-2-4	2 4oz Jar		-002													
	0925	S	11215161-063020-ZC-TP-3-4			-003													
	0940	S	11215161-063020-ZC-TP-4-4			-004													
	1005	S	11215161-063020-ZC-TP-5-4			-005													
	1040	S	11215161-063020-ZC-TP-6-4			-006													
	1055	S	11215161-063020-ZC-TP-7-4			-007													
	1120	S	11215161-063020-ZC-TP-8-4			-008													
	1140	S	11215161-063020-ZC-TP-9-4			-009													
	1150	S	11215161-063020-ZC-TP-10-4			-010													
	1210	S	11215161-063020-ZC-TP-11-4			-011													

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/30/20	1400				6/30/20	1400
6/30/20	1910			Courier	7/1/20	9:20

Remarks: Invoice EOG Attn: Chase Settle

Same Day Results!

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

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

CONDITIONS

Operator:	OGRID:
EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	7377
	Action Number: 52261
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	9/28/2021