SITE INFORMATION

Report Type: Closure Report 2RP-190

General Site Information:						
Site:	**Glow Worm ALX Federal #14**					
Company:	**EOG Resources**					
Section, Township and Range	**Unit A**	**Sec. 04**	**T 23S**	**R 31E**		
County:	**Eddy County, NM**					
GPS:	**32.33971**			**-103.77485**		
Surface Owner:	**State of New Mexico**					

Release Data:	
Date Released:	6/16/2008
Type Release:	Produced Water / Oil
Source of Contamination:	Flow line
Fluid Released:	45 bbls. PW / 5 bbls. Oil
Fluids Recovered:	0 bbls.

Official Communication:			
Name:	James Kennedy		Clair Gonzales
Company:	EOG Resources		Tetra Tech
Address:	5509 Champions Dr		901 West Wall Street
			Suite 100
City:	Midland, TX 79706		Midland, Texas 79701
Phone number:	432-686-7016		432-687-8634
Fax:			
Email:	James.Kennedy@eogresources.com		clair.gonzales@tetratech.com

Site Characterization	
Depth to Groundwater:	*428' below ground surface (bgs) per NMOSE Database*
Karst Potential:	*Low*

Recommended Remedial Action Levels (RRALs)			
Benzene	***Total BTEX***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*2,500 mg/kg*	*20,000 mg/kg*

TETRA TECH

March 16, 2021

Bradford Billings
Hydrologist
District 2 Artesia
Oil Conservation Division
Santa Fe, NM 87505

Re: Closure Report
EOG Resources
Glow Worm ALX Federal #14
Unit A, Section 04, Township 23 South, Range 31 East
Eddy County, New Mexico
2RP-190

Mr. Billings:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources (EOG) to assess the release at the EOG Glow Worm ALX Federal #14 (API No. 30-015-35316). The release footprint is located in the Public Land Survey System (PLSS) Unit A, Section 04, Township 23 South, Range 31 East, Eddy County, New Mexico (Site). The Site coordinates are 32.33971ºN, -103.77485ºW. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the release occurred on June 16, 2008, due to a rupture from the knockout tank flowline. The release consisted of 45 barrels (bbls) of produced water and five (5) bbls of oil impacting an approximate 35 feet (ft) x 15 ft area of the caliche between the tank battery and the well location on the side of the lease road at the Site. Per the C-141 form, no fluids were recovered.

The initial C-141 report was submitted on June 28, 2008 by Yates Petroleum and approved by the New Mexico Oil Conservation Division (NMOCD) on July 11, 2008. The release was subsequently assigned the Remediation Permit (RP) number 2RP-190. The C-141 form is included in Appendix A.

Site Characterization

A site characterization was performed for the site, and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances, and the site is in a low karst potential area. The nearest well is listed in the USGS National Water Information Database website in Section 06, approximately 2.24 miles southwest of the site, and has a reported depth to groundwater of 82.40 feet below ground surface. In addition, according to the New Mexico Office of the State Engineer, four (4) water wells are located within 800 meters (approximately ½ mile) of the Site.

Tetra Tech
901 West Wall Street, Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

The average depth to groundwater is 428 ft. bgs. Site characterization data is included in Appendix B.

Regulatory

A risk-based evaluation was performed for the site per the NMOCD Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the site characterization, the proposed RRAL for TPH is 100 mg/kg (GRO+DRO+MRO) in the upper four (4) ft and 2,500 mg/kg (GRO+DRO+MRO) below 4 ft below ground surface (bgs). Additionally, based on the site characterization, the proposed RRAL for chlorides is 600 mg/kg in the upper 4 ft and 20,000 mg/kg (GRO+DRO+MRO) below 4 ft bgs.

Soil Assessment and Analytical Results

On February 23, 2021, Tetra Tech personnel were on the Site to conduct a site investigation and soil sampling at the release area. The release area was identified from the description in the C-141 and the aerial imagery. Soils were field screened for salinity using an Extech EC400 ExStik to determine sampling intervals. A total of two (2) auger holes (AH-1 and AH-2) were advanced to total depth from ground surface to 4 ft bgs. A total of eight (8) samples were analyzed for BTEX by EPA Method 8021B, TPH by EPA Method 8015 modified, and chloride by EPA Method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3. Photographic documentation is also attached.

Referring to Table 1, none of the samples analyzed exceeded the Site RRAL for chloride (20,000 mg/kg), TPH (2,500 mg/kg), BTEX (50 m/kg,) and benzene (10 mg/kg). In addition, all the samples were also below the 600 mg/kg chloride and 100 mg/kg TPH reclamation standards.

TETRA TECH

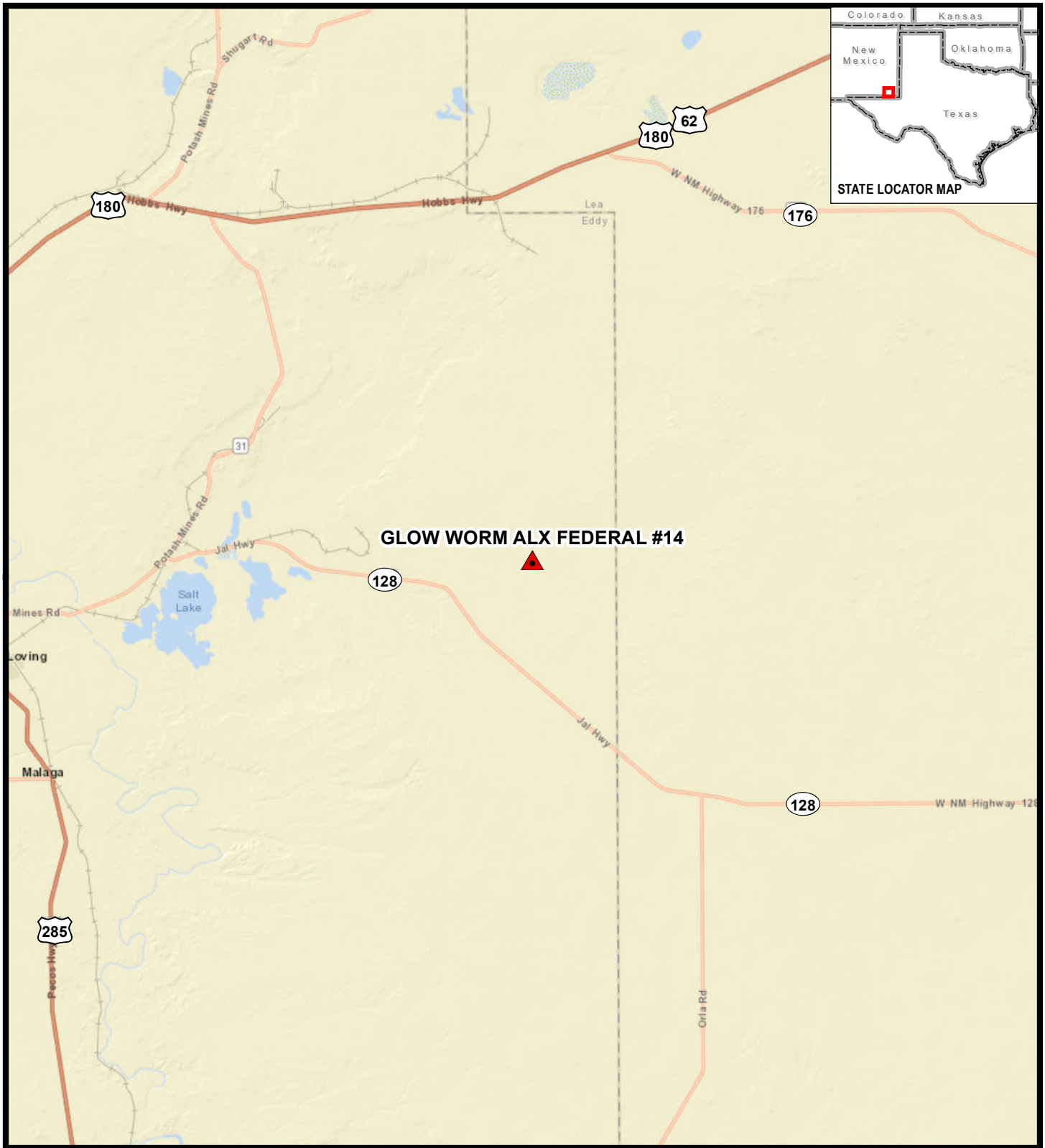
Conclusion

Based on the laboratory results, EOG requests closure of this spill issue. The final C-141 initial report and additional site/assessment and closure forms are enclosed in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Clair Gonzales, P.G.
Senior Project Manager
Tetra Tech, Inc.

Figures



SITE LOCATION

N
W
E
S

0 2.5 5 Miles

Approximate Scale in Miles

Source: ESRI Basemap - Streets, 2021.

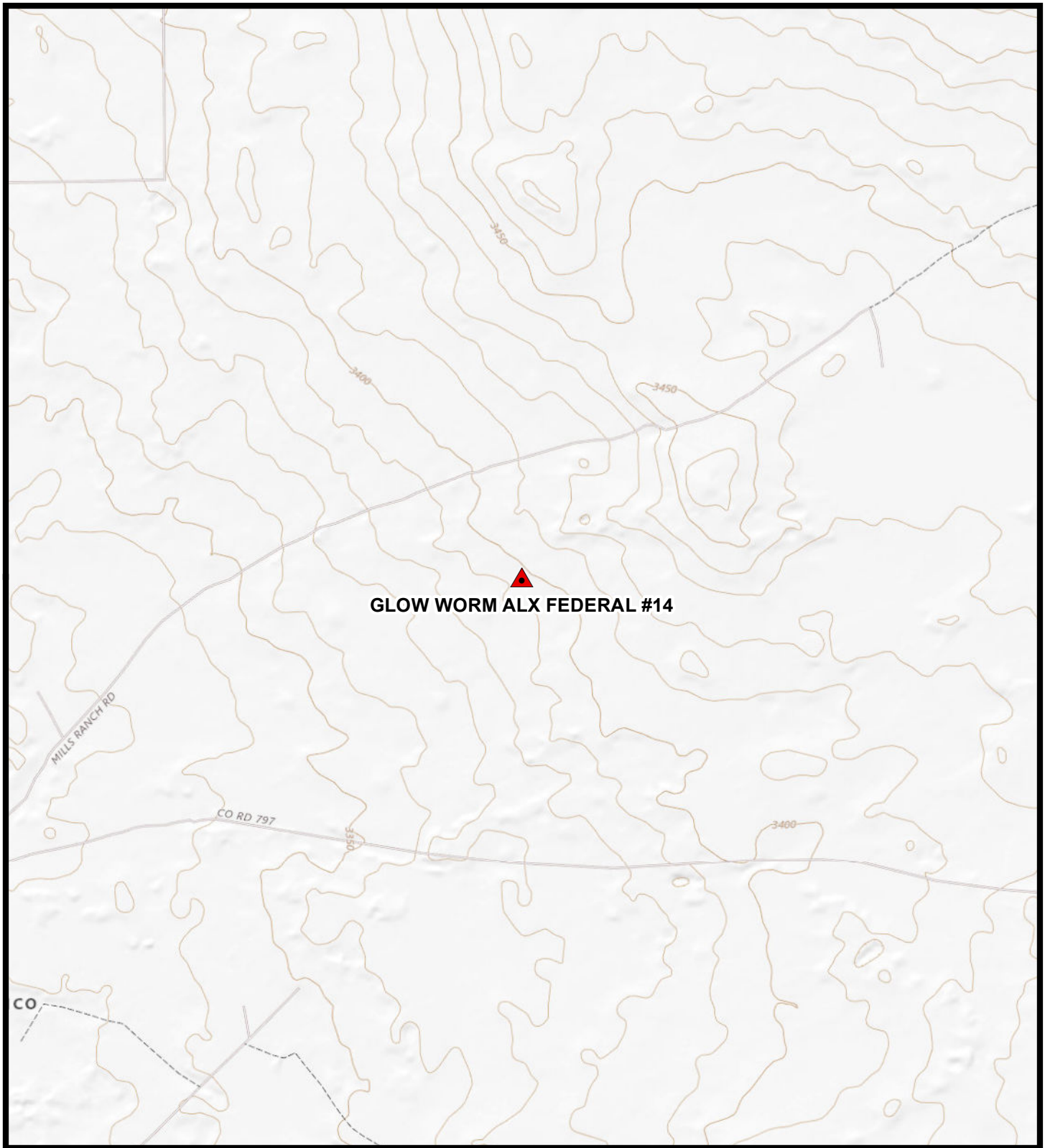
OVERVIEW MAP
GLOW WORM ALX FEDERAL #14
2RP-190
Property Located at coordinates 32.22971°, -103.77485°
EDDY COUNTY, NEW MEXICO

eog resources

Project #:
212C-MD-02419

FIGURE
1

C:\GIS\EOG Resources\212C-MD-02419_Glowworm\ALX\Fed14\212C-MD02419_GLOWWORM_ALX_FED14_FIG1.mxd 3/12/2021 joel.peters



SITE LOCATION

N
W
E
S

0 1,000 2,000 Feet

Approximate Scale in Feet

Source: USGS, The National Map, Topo Base, 2021.

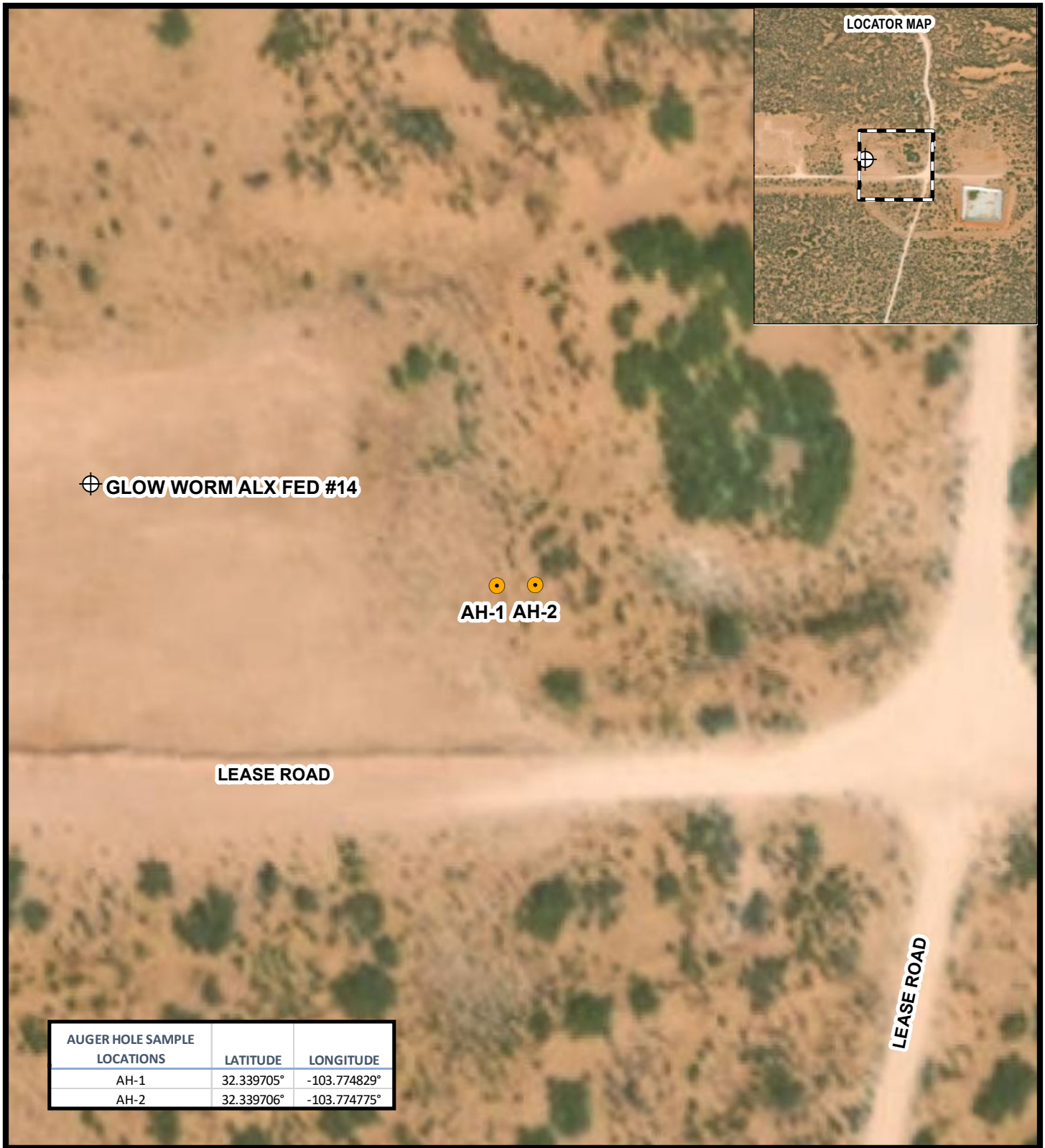
TOPOGRAPHIC MAP
GLOW WORM ALX FEDERAL #14
2RP-190
Property Located at coordinates 32.22971°, -103.77485°
EDDY COUNTY, NEW MEXICO

eog resources

Project #:
212C-MD-02419

FIGURE
2

C:\GIS\EOG Resources\212C-MD-02419_Glowwormalxfed14\212C-MD02419_GLOWWORM_ALX_FED14_FIG2.mxd 3/12/2021 joel.peters



AUGER HOLE SAMPLE LOCATIONS	LATITUDE	LONGITUDE
AH-1	32.339705°	-103.774829°
AH-2	32.339706°	-103.774775°

AUGER HOLE SAMPLE LOCATION

WELLHEAD

N
W
E
S

0 30 60 Feet

Approximate Scale in Feet

Source: ESRI Basemap - Imagery, 2019.

RELEASE ASSESSMENT MAP AND BORING LOCATIONS
GLOW WORM ALX FEDERAL #14
2RP-190
Property Located at coordinates 32.22971°, -103.77485°
EDDY COUNTY, NEW MEXICO

eog resources

Project #:
212C-MD-02419

FIGURE
3

C:\GIS\EOG Resources\212C-MD-02419_Glowworm\ALXFed14\212C-MD02419_GLOWWORM_ALX_FED14_FIG3.mxd 3/12/2021 joel.peters

Tables

Table 1
EOG Resources
Glow Worm ALX Federal #14
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
AH-1	2/23/2021	0-1	X	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<4.96
	"	1.5-2	X	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	6.01
	"	2.5-3	X	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	9.58
	"	3.5-4	X	-	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	16.4
AH-2	2/23/2021	0-1	X	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<4.97
	"	1.5-2	X	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	13.1
	"	2.5-3	X	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	23.6
	"	3.5-4	X	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	26.4

(-) Not Analyzed

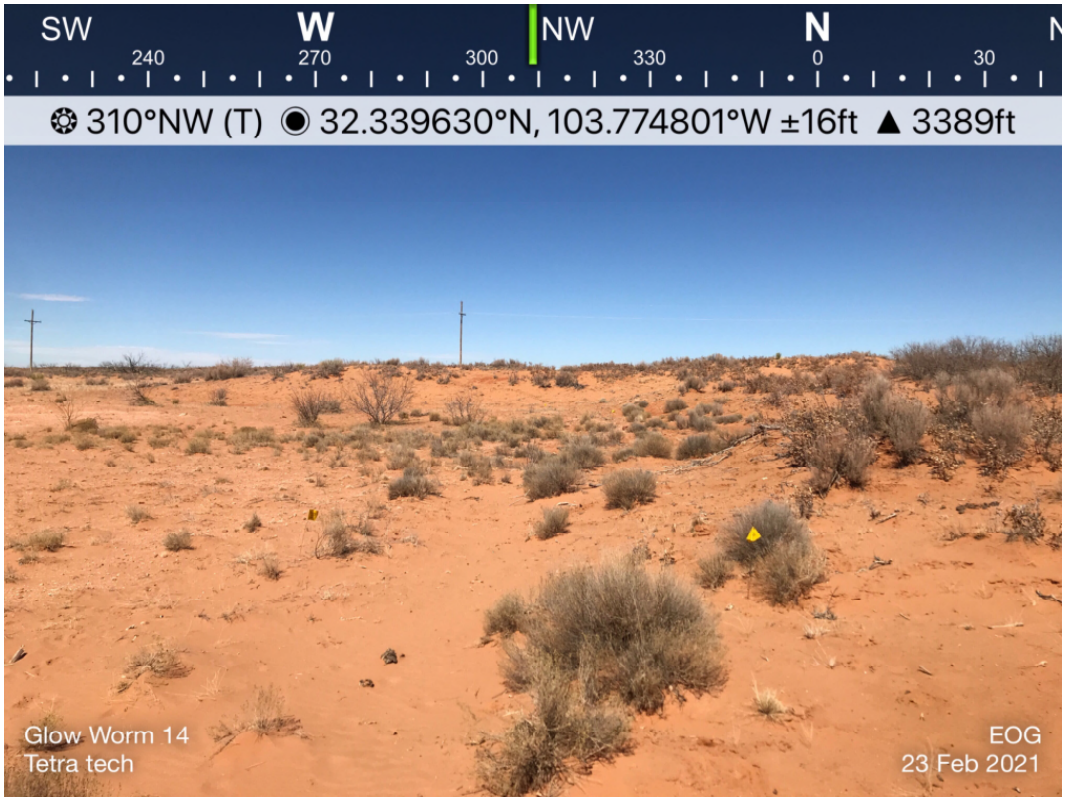
Exceeded RRALs

Photos

EOG Resources
Glow Worm ALX Federal #14
Eddy County, New Mexico

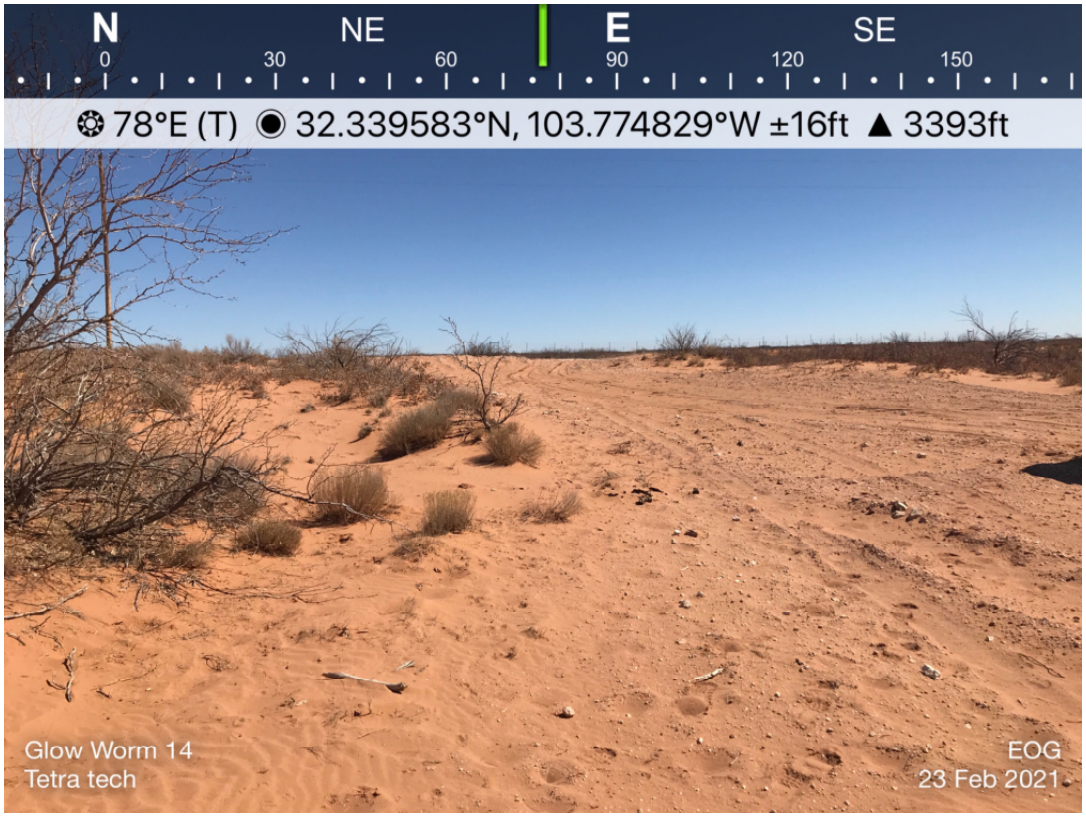
TETRA TECH

View of Former Glow Worm ALX Federal #14 – View West



View of Release Area – View Northwest

EOG Resources
Glowworm ALX Federal #13
and #15-H
Eddy County, New Mexico



View of Release Area – View East

Appendix A

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

JUN 25 2008
OCD-ARTESIA

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

nSEB0819339191
nSEB0819336812

OPERATOR

X Initial Report Final Report

Name of Company Yates Petroleum Corporation 25575	Contact Mike Stubblefield
Address 105 South 4th Street, Artesia, N.M. 88210	Telephone No. 505-7484500 505-513-1712
Facility Name Glowworm ALX Federal #14	Facility Type Producing oil well

Surface Owner Federal	Mineral Owner Federal	Lease No.

30-015-35316

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	4	23s	31e	330'	FNL	330'	FEL	Eddy

Latitude 32.33971 Longitude 103.77485

NATURE OF RELEASE

Type of Release: Produced water, Oil	Volume of Release 45 BBLS PW 5 BBLS Oil	Volume Recovered 0 BBLS
Source of Release Flow line	Date and Hour of Occurrence 6/16/2008 6:00am	Date and Hour of Discovery same
Was Immediate Notice Given? Yes X No Not Required	If YES, To Whom? NMOCD/Mike Bratcher's voice mail box.	
By Whom? Mike Stubblefield	Date and Hour 6/17/2008 10:53am	
Was a Watercourse Reached? ☐ Yes X No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The back PIS valve locked up putting to much pressure on the KO and the flow line ruptured. The back PIS valve was replaced, the flow line was repaired.

Describe Area Affected and Cleanup Action Taken.*
The impacted area was between the tank battery and well location on the side of the lease road. This area measured to be 35'x15'. Soil samples will be taken from the impacted area. Soil samples will be submitted to a second party lab and analysis ran for Chlorides using EPA Method 300, TPH using EPA Method 8015m, B-TEX using EPA Method 8260B. When the analytical results have been received from initial soil samples taken, A work plan for the correction of the release based on analytical results will be submitted to the NMOCD for approval. The Chlorides will be evaluated and appropriate actions taken. Yates Petroleum Corporation will then submit a final C-141 form requesting closure for the release that occurred on 6/16/2008.
Depth to ground water > 100', Wellhead protection area > 1000', Distance to surface water body > 1000' Site ranking 0.

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: Mike Stubblefield

Printed Name: Mike Stubblefield

Title: Environmental Regulatory Agent

E-mail Address: mikes@ypcnm.com

Date: 6/25/2008 Phone: 505-748-4500

OIL CONSERVATION DIVISION

Approved by District Supervisor: Tgum by SD

Remediation Actions to be completed and Final C-141 submitted with confirmation analyses/documentation on or before the Expiration Date.

Approval Date: 7-11-08 Expiration Date: 9-12-08

Conditions of Approval:

Within 30 days, on or before 8-13-08, completion of a remediation work plan based on delineation should be finalized and submitted for approval to the Division summarizing all actions taken and/or to be taken to mitigate environmental damage.

Attached ☐
2RP-190

Notify OCD 48 hours prior to obtaining samples where analyses are to be presented to OCD

* Attach Additional Sheets If Necessary
SEB0819339278

State of New Mexico
Oil Conservation Division

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?	☐ 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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: James F. Kennedy Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nSEB0819336812
District RP	
Facility ID	
Application ID	

Closure

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

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

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

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

Printed Name: _____ Title: _____

Signature: James F. Kennedy Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

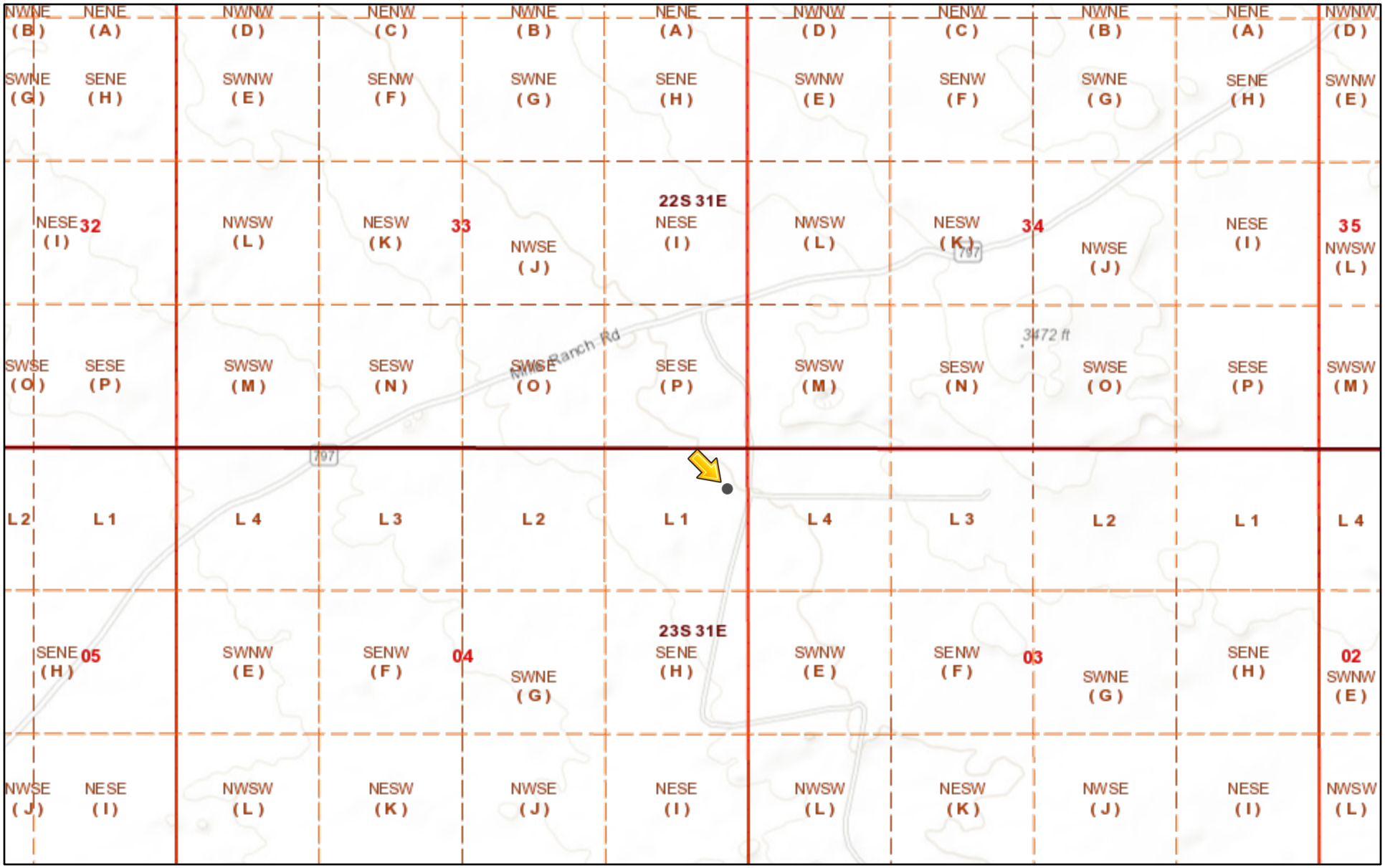
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

Closure Approved by: Bradford Billings Date: 11/16/2021

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

Appendix B

2RP-190



2/18/2021, 10:01:13 AM

Override 1

OCD District Offices

PLSS First Division

PLSS Second Division

PLSS Townships

OSE Water-bodies

OSE Streams

PLJV Probable Playas

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

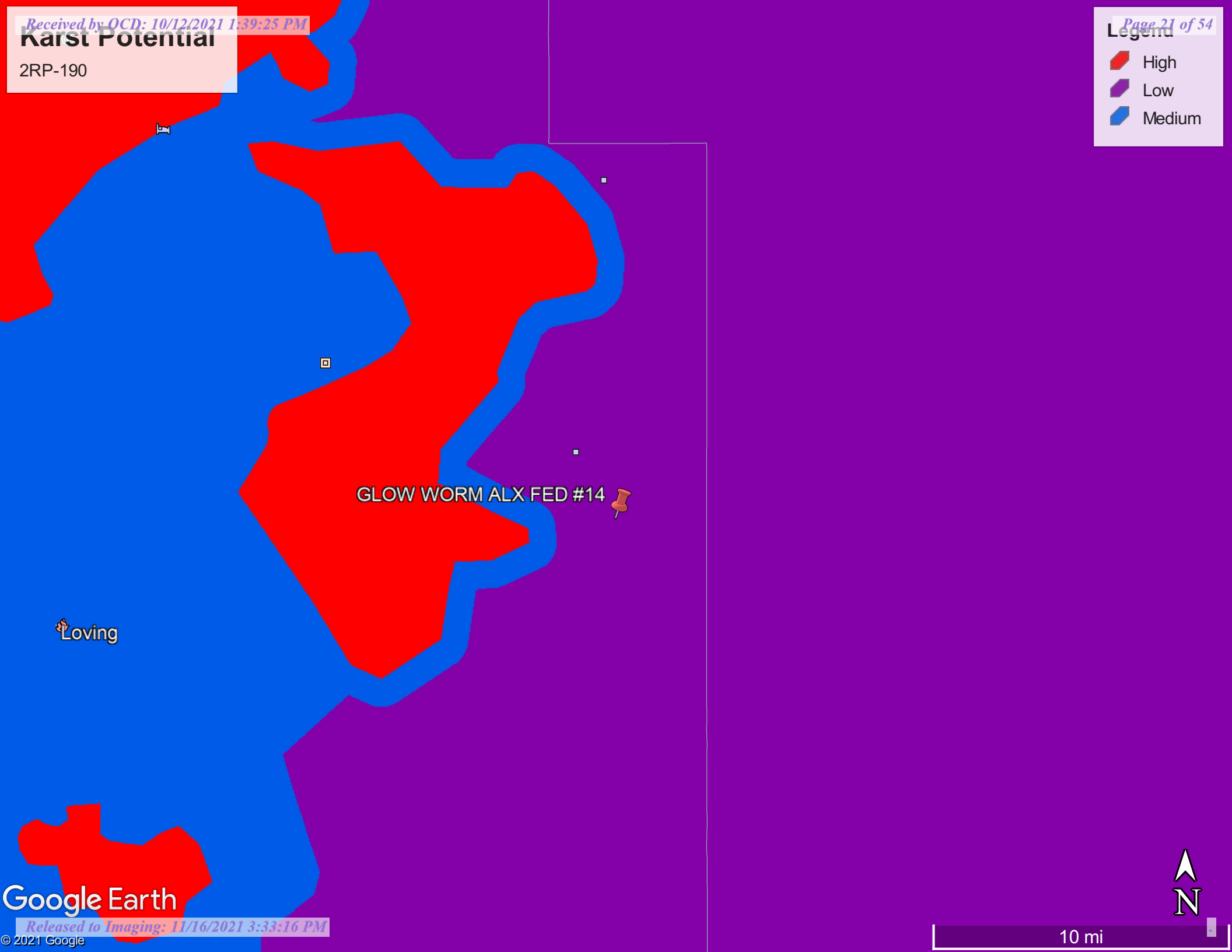
Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin,

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

Karst Potential

2RP-190



New Mexico NFHL Data

February 18, 2021

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

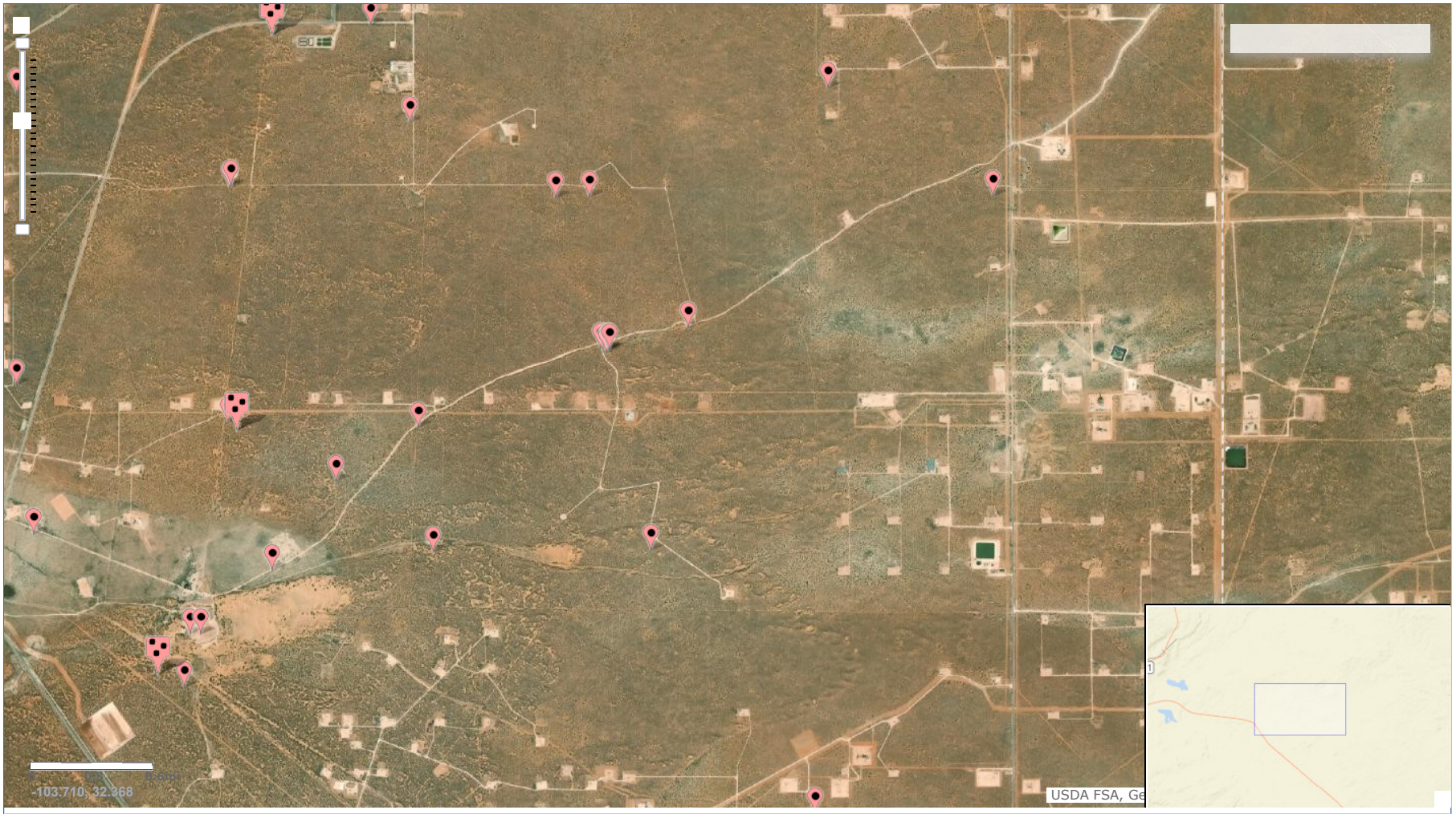
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

USGS science for a changing world

USGS Home
Contact USGS
Search USGS

National Water Information System: Mapper

Help Info



Site Information

Click to hideNews Bulletins

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

Groundwater levels for New Mexico

Click to hide state-specific text

* IMPORTANT: Next Generation Station Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321927103483201

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 321927103483201 23S.31E.06.44434

Eddy County, New Mexico
Latitude 32°19'27", Longitude 103°48'32" NAD27
Land-surface elevation 3,311 feet above NAVD88
The depth of the well is 160 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1959-02-04		D	62610		3203.72	NGVD29	1	Z			A
1959-02-04		D	62611		3205.35	NAVD88	1	Z			A
1959-02-04		D	72019	105.65			1	Z			A
1972-09-20		D	62610		3203.02	NGVD29	1	Z			A
1972-09-20		D	62611		3204.65	NAVD88	1	Z			A
1972-09-20		D	72019	106.35			1	Z			A
1977-03-10		D	62610		3201.97	NGVD29	1	Z			A
1977-03-10		D	62611		3203.60	NAVD88	1	Z			A
1977-03-10		D	72019	107.40			1	Z			A
1983-02-02		D	62610		3233.82	NGVD29	1	Z			A
1983-02-02		D	62611		3235.45	NAVD88	1	Z			A
1983-02-02		D	72019	75.55			1	Z			A
1984-12-13		D	62610		3226.97	NGVD29	1	Z			A
1984-12-13		D	62611		3228.60	NAVD88	1	Z			A
1984-12-13		D	72019	82.40			1	Z			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02769 POD2		CUB	ED	4	2	4	33	22S	31E	615261	3579312	563	753	428	325
C 02687		CUB	ED	4	2	4	33	22S	31E	615246	3579364*	616	779		
C 02767		CUB	ED	4	1	4	33	22S	31E	614844	3579360*	760	785		
C 02768		CUB	ED	4	1	4	33	22S	31E	614844	3579360*	760	787		

Average Depth to Water: **428 feet**
Minimum Depth: **428 feet**
Maximum Depth: **428 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 615297.92 **Northing (Y):** 3578749.88 **Radius:** 800

***UTM location was derived from PLSS - see Help**

3/15/21 9:09 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix C

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Certificate of Analysis Summary 689231

Tetra Tech- Midland, Midland, TX

Project Name: Glowworm ALX Federal #14

Project Id:

Contact: Clair Gonzales

Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 02.25.2021 09:35

Report Date: 03.01.2021 18:51

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	689231-001		689231-002		689231-003		689231-004		689231-005		689231-006	
	Field Id:	AH-1 (0-1')		AH-1 (1.5'-2')		AH-1 (2.5'-3')		AH-1 (3.5'-4')		AH-2 (0-1')		AH-2 (1.5'-2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.23.2021 00:00		02.23.2021 00:00		02.23.2021 00:00		02.23.2021 00:00		02.23.2021 00:00		02.23.2021 00:00	
BTEX by EPA 8021B	***Extracted:***	02.26.2021 13:30		02.26.2021 13:30		02.26.2021 13:30		02.26.2021 13:30		02.26.2021 13:30		02.26.2021 13:30	
	Analyzed:	02.26.2021 16:46		02.26.2021 17:07		02.26.2021 17:28		02.26.2021 17:48		02.26.2021 18:09		02.26.2021 18:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00396	0.00396	<0.00397	0.00397	<0.00400	0.00400	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300/300.1	***Extracted:***	02.25.2021 19:00		02.25.2021 19:00		02.25.2021 19:00		02.25.2021 19:00		02.25.2021 19:00		02.25.2021 19:00	
	Analyzed:	02.25.2021 23:43		02.25.2021 23:49		02.26.2021 00:05		02.26.2021 00:11		02.26.2021 00:16		02.26.2021 00:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.96	4.96	6.01	4.99	9.58	4.99	16.4	4.99	<4.97	4.97	13.1	4.96
TPH By SW8015 Mod	***Extracted:***	02.27.2021 09:00		02.27.2021 09:00		02.27.2021 09:00		02.27.2021 09:00		02.27.2021 09:00		02.27.2021 09:00	
	Analyzed:	02.27.2021 15:29		02.27.2021 15:50		02.27.2021 16:33		02.27.2021 16:55		02.27.2021 17:16		02.27.2021 17:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Total TPH		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Certificate of Analysis Summary 689231

Tetra Tech- Midland, Midland, TX

Project Name: Glowworm ALX Federal #14

Project Id:

Contact: Clair Gonzales

Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 02.25.2021 09:35

Report Date: 03.01.2021 18:51

Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	689231-007		689231-008					
	Field Id:	AH-2(2.5'-3')		AH-2 (3.5'-4')					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	02.23.2021 00:00		02.23.2021 00:00					
BTEX by EPA 8021B	***Extracted:***	02.26.2021 13:30		02.26.2021 13:30					
	Analyzed:	02.26.2021 18:50		02.26.2021 19:11					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00201	0.00201				
Toluene		<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00399	0.00399	<0.00402	0.00402				
o-Xylene		<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201				
Total BTEX		<0.00200	0.00200	<0.00201	0.00201				
Inorganic Anions by EPA 300/300.1	***Extracted:***	02.25.2021 19:00		02.25.2021 19:00					
	Analyzed:	02.26.2021 00:27		02.26.2021 00:33					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		23.6	5.02	26.4	5.04				
TPH By SW8015 Mod	***Extracted:***	02.27.2021 09:00		02.27.2021 09:00					
	Analyzed:	02.27.2021 17:59		02.27.2021 18:20					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9				
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9				
Total TPH		<50.0	50.0	<49.9	49.9				

BRL - Below Reporting Limit

Jessica Kramer

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Analytical Report 689231

for

Tetra Tech- Midland

Project Manager: Clair Gonzales

Glowworm ALX Federal #14

03.01.2021

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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03.01.2021

Project Manager: **Clair Gonzales**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **689231**
Glowworm ALX Federal #14
Project Address: Eddy County, New Mexico

Clair Gonzales:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 689231. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 689231 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Sample Cross Reference 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 (0-1')	S	02.23.2021 00:00		689231-001
AH-1 (1.5'-2')	S	02.23.2021 00:00		689231-002
AH-1 (2.5'-3')	S	02.23.2021 00:00		689231-003
AH-1 (3.5'-4')	S	02.23.2021 00:00		689231-004
AH-2 (0-1')	S	02.23.2021 00:00		689231-005
AH-2 (1.5'-2')	S	02.23.2021 00:00		689231-006
AH-2(2.5'-3')	S	02.23.2021 00:00		689231-007
AH-2 (3.5'-4')	S	02.23.2021 00:00		689231-008

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CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Glowworm ALX Federal #14

Project ID:
Work Order Number(s): *689231*

Report Date: *03.01.2021*
Date Received: *02.25.2021*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3151967 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected. Samples affected are: 689231-003.

Surrogate 1,4-Difluorobenzene recovered above QC limits\. Samples affected are: 7722131-1-BLK.

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id: **AH-1 (0-1')** Matrix: Soil Date Received:02.25.2021 09:35

Lab Sample Id: 689231-001 Date Collected: 02.23.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.25.2021 19:00 % Moisture:

Seq Number: 3151847 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	02.25.2021 23:43	U	1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.27.2021 09:00 % Moisture:

Seq Number: 3152062 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.27.2021 15:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.27.2021 15:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.27.2021 15:29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.27.2021 15:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	02.27.2021 15:29	
o-Terphenyl	84-15-1	103	%	70-130	02.27.2021 15:29	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-1 (0-1')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-001	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.26.2021 16:46	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.26.2021 16:46	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.26.2021 16:46	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.26.2021 16:46	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.26.2021 16:46	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.26.2021 16:46	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.26.2021 16:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	02.26.2021 16:46	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.26.2021 16:46	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-1 (1.5'-2')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-002	Date Collected:	02.23.2021 00:00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE				
Analyst:	CHE	Date Prep:	02.25.2021 19:00	% Moisture:	
Seq Number:	3151847			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.01**	4.99	mg/kg	02.25.2021 23:49		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	02.27.2021 09:00	% Moisture:	
Seq Number:	3152062			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.27.2021 15:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.27.2021 15:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.27.2021 15:50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.27.2021 15:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	02.27.2021 15:50	
o-Terphenyl	84-15-1	90	%	70-130	02.27.2021 15:50	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-1 (1.5'-2')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-002	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.26.2021 17:07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.26.2021 17:07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.26.2021 17:07	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.26.2021 17:07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.26.2021 17:07	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.26.2021 17:07	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.26.2021 17:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	70-130	02.26.2021 17:07	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.26.2021 17:07	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-1 (2.5'-3')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-003	Date Collected:	02.23.2021 00:00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE				
Analyst:	CHE	Date Prep:	02.25.2021 19:00	% Moisture:	
Seq Number:	3151847			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.58**	4.99	mg/kg	02.26.2021 00:05		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	02.27.2021 09:00	% Moisture:	
Seq Number:	3152062			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.27.2021 16:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.27.2021 16:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.27.2021 16:33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.27.2021 16:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	02.27.2021 16:33	
o-Terphenyl	84-15-1	109	%	70-130	02.27.2021 16:33	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-1 (2.5'-3')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-003	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.26.2021 17:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.26.2021 17:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.26.2021 17:28	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.26.2021 17:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.26.2021 17:28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.26.2021 17:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.26.2021 17:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	353	%	70-130	02.26.2021 17:28	**
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.26.2021 17:28	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id: **AH-1 (3.5'-4')** Matrix: Soil Date Received:02.25.2021 09:35

Lab Sample Id: 689231-004 Date Collected: 02.23.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.25.2021 19:00 % Moisture:

Seq Number: 3151847 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.4**	4.99	mg/kg	02.26.2021 00:11		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.27.2021 09:00 % Moisture:

Seq Number: 3152062 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.27.2021 16:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.27.2021 16:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.27.2021 16:55	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.27.2021 16:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	02.27.2021 16:55	
o-Terphenyl	84-15-1	96	%	70-130	02.27.2021 16:55	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-1 (3.5'-4')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-004	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.26.2021 17:48	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.26.2021 17:48	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.26.2021 17:48	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.26.2021 17:48	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.26.2021 17:48	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.26.2021 17:48	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.26.2021 17:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.26.2021 17:48	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.26.2021 17:48	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-2 (0-1')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-005	Date Collected:	02.23.2021 00:00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE				
Analyst:	CHE	Date Prep:	02.25.2021 19:00	% Moisture:	
Seq Number:	3151847			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	02.26.2021 00:16	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	02.27.2021 09:00	% Moisture:	
Seq Number:	3152062			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.27.2021 17:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.27.2021 17:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.27.2021 17:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.27.2021 17:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	02.27.2021 17:16	
o-Terphenyl	84-15-1	91	%	70-130	02.27.2021 17:16	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-2 (0-1')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-005	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.26.2021 18:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.26.2021 18:09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.26.2021 18:09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.26.2021 18:09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.26.2021 18:09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.26.2021 18:09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.26.2021 18:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.26.2021 18:09	
1,4-Difluorobenzene	540-36-3	99	%	70-130	02.26.2021 18:09	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id: **AH-2 (1.5'-2')** Matrix: Soil Date Received:02.25.2021 09:35

Lab Sample Id: 689231-006 Date Collected: 02.23.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.25.2021 19:00 % Moisture:

Seq Number: 3151847 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.1**	4.96	mg/kg	02.26.2021 00:22		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.27.2021 09:00 % Moisture:

Seq Number: 3152062 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.27.2021 17:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.27.2021 17:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.27.2021 17:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.27.2021 17:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	02.27.2021 17:37	
o-Terphenyl	84-15-1	91	%	70-130	02.27.2021 17:37	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-2 (1.5'-2')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-006	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.26.2021 18:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.26.2021 18:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.26.2021 18:30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.26.2021 18:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.26.2021 18:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.26.2021 18:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.26.2021 18:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.26.2021 18:30	
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.26.2021 18:30	

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Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id: **AH-2(2.5'-3')** Matrix: Soil Date Received:02.25.2021 09:35

Lab Sample Id: 689231-007 Date Collected: 02.23.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.25.2021 19:00 % Moisture:

Seq Number: 3151847 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.6**	5.02	mg/kg	02.26.2021 00:27		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.27.2021 09:00 % Moisture:

Seq Number: 3152062 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.27.2021 17:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.27.2021 17:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.27.2021 17:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.27.2021 17:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	02.27.2021 17:59	
o-Terphenyl	84-15-1	93	%	70-130	02.27.2021 17:59	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-2(2.5'-3')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-007	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.26.2021 18:50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.26.2021 18:50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.26.2021 18:50	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.26.2021 18:50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.26.2021 18:50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.26.2021 18:50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.26.2021 18:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.26.2021 18:50	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.26.2021 18:50	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id: **AH-2 (3.5'-4')** Matrix: Soil Date Received:02.25.2021 09:35

Lab Sample Id: 689231-008 Date Collected: 02.23.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.25.2021 19:00 % Moisture:

Seq Number: 3151847 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.4**	5.04	mg/kg	02.26.2021 00:33		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.27.2021 09:00 % Moisture:

Seq Number: 3152062 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.27.2021 18:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.27.2021 18:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.27.2021 18:20	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.27.2021 18:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	02.27.2021 18:20	
o-Terphenyl	84-15-1	101	%	70-130	02.27.2021 18:20	

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Certificate of Analytical Results 689231

Tetra Tech- Midland, Midland, TX

Glowworm ALX Federal #14

Sample Id:	**AH-2 (3.5'-4')**	Matrix:	Soil	Date Received:	02.25.2021 09:35
Lab Sample Id:	689231-008	Date Collected:	02.23.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.26.2021 13:30	% Moisture:	
Seq Number:	3151967			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.26.2021 19:11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.26.2021 19:11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.26.2021 19:11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.26.2021 19:11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.26.2021 19:11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.26.2021 19:11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.26.2021 19:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.26.2021 19:11	
1,4-Difluorobenzene	540-36-3	101	%	70-130	02.26.2021 19:11	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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QC Summary 689231

Tetra Tech- Midland

Glowworm ALX Federal #14

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3151847 — Matrix: Solid — Date Prep: 02.25.2021
MB Sample Id: 7722019-1-BLK — LCS Sample Id: 7722019-1-BKS — LCSD Sample Id: 7722019-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	239	96	237	95	90-110	1	20	mg/kg	02.25.2021 22:00	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3151847 — Matrix: Soil — Date Prep: 02.25.2021
Parent Sample Id: 689049-022 — MS Sample Id: 689049-022 S — MSD Sample Id: 689049-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	179	251	421	96	419	96	90-110	0	20	mg/kg	02.25.2021 22:16	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3151847 — Matrix: Soil — Date Prep: 02.25.2021
Parent Sample Id: 689052-006 — MS Sample Id: 689052-006 S — MSD Sample Id: 689052-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.1	250	253	96	252	96	90-110	0	20	mg/kg	02.25.2021 23:33	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3152062 — Matrix: Solid — Date Prep: 02.27.2021
MB Sample Id: 7722185-1-BLK — LCS Sample Id: 7722185-1-BKS — LCSD Sample Id: 7722185-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	883	88	892	89	70-130	1	20	mg/kg	02.27.2021 11:14	
Diesel Range Organics (DRO)	<50.0	1000	813	81	828	83	70-130	2	20	mg/kg	02.27.2021 11:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		80		80		70-130	%	02.27.2021 11:14
o-Terphenyl	99		85		86		70-130	%	02.27.2021 11:14

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3152062 — Matrix: Solid — Date Prep: 02.27.2021
MB Sample Id: 7722185-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.27.2021 10:53	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 689231

Tetra Tech- Midland

Glowworm ALX Federal #14

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3152062 Matrix: Soil Date Prep: 02.27.2021
Parent Sample Id: 689232-021 MS Sample Id: 689232-021 S MSD Sample Id: 689232-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	786	79	885	89	70-130	12	20	mg/kg	02.27.2021 12:18	
Diesel Range Organics (DRO)	<49.9	997	786	79	819	82	70-130	4	20	mg/kg	02.27.2021 12:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	71		87		70-130	%	02.27.2021 12:18
o-Terphenyl	71		85		70-130	%	02.27.2021 12:18

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3151967 Matrix: Solid Date Prep: 02.26.2021
MB Sample Id: 7722131-1-BLK LCS Sample Id: 7722131-1-BKS LCSD Sample Id: 7722131-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0999	100	0.112	112	70-130	11	35	mg/kg	02.26.2021 14:22	
Toluene	<0.00200	0.100	0.0915	92	0.0968	97	70-130	6	35	mg/kg	02.26.2021 14:22	
Ethylbenzene	<0.00200	0.100	0.0837	84	0.0894	89	70-130	7	35	mg/kg	02.26.2021 14:22	
m,p-Xylenes	<0.00400	0.200	0.172	86	0.183	92	70-130	6	35	mg/kg	02.26.2021 14:22	
o-Xylene	<0.00200	0.100	0.0821	82	0.0848	85	70-130	3	35	mg/kg	02.26.2021 14:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	131	**	106		110		70-130	%	02.26.2021 14:22
4-Bromofluorobenzene	72		76		76		70-130	%	02.26.2021 14:22

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3151967 Matrix: Soil Date Prep: 02.26.2021
Parent Sample Id: 689231-001 MS Sample Id: 689231-001 S MSD Sample Id: 689231-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.115	115	0.110	111	70-130	4	35	mg/kg	02.26.2021 15:04	
Toluene	<0.00199	0.0996	0.101	101	0.0946	95	70-130	7	35	mg/kg	02.26.2021 15:04	
Ethylbenzene	<0.00199	0.0996	0.0956	96	0.0837	84	70-130	13	35	mg/kg	02.26.2021 15:04	
m,p-Xylenes	<0.00398	0.199	0.202	102	0.184	93	70-130	9	35	mg/kg	02.26.2021 15:04	
o-Xylene	<0.00199	0.0996	0.0934	94	0.0856	86	70-130	9	35	mg/kg	02.26.2021 15:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		107		70-130	%	02.26.2021 15:04
4-Bromofluorobenzene	81		90		70-130	%	02.26.2021 15:04

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

089231

Client Name: EOG	Site Manager: Clair Gonzales
Project Name: Glowworm ALX Federal #14	
Project Location: (county, state) Eddy County, New Mexico	Project #:
Invoice to: James Kennedy	
Receiving Laboratory: Xenco	Sampler Signature: Devin Dominguez
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2021 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	AH-1 (0-1')	2/23/2021			X				X			1	N
	AH-1 (1.5'-2')	2/23/2021			X				X			1	N
	AH-1 (2.5'-3')	2/23/2021			X				X			1	N
	AH-1 (3.5'-4')	2/23/2021			X				X			1	N
	AH-2 (0-1')	2/23/2021			X				X			1	N
	AH-2 (1.5'-2')	2/23/2021			X				X			1	N
	AH-2 (2.5'-3')	2/23/2021			X				X			1	N
	AH-2 (3.5'-4')	2/23/2021			X				X			1	N

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			Hold
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							

Relinquished by: Date: 2/25 Time: 935

Received by: Date: 2/25/21 Time: 935

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 5.2

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day 24 hr 48 hr (72 hr)
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 02.25.2021 09.35.00 AM

Work Order #: 689231

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 02.25.2021

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02.25.2021

Jessica Kramer

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: 55286
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	11/16/2021