TETRA TECH

March 27, 2020

Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Closure Report for the EOG Resources, Ohkay SWD #3, Section 6, Township 25 South, Range 30 East, Eddy County, New Mexico.

Oil Conservation Division:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources (EOG) to asses and remediate a release that occurred at the EOG Resources, Ohkay SWD #3, Section 6, Township 25 South, Range 30 East, Eddy County, New Mexico (Site). The site coordinates are 32.13240º, -104.13323 º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report the release was discovered on February 17, 2011 and released approximately 60 barrels of produced water due to a tank overflow. 10 barrels of the released fluids were recovered. The release occurred North of the tank battery, impacting areas measuring approximately 60' x 6'. 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, springs, 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 7, approximately 0.45 miles south-southwest of the site, and has a reported depth to groundwater of 263 feet below ground surface. Site characterization data is included in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (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

Tetra Tech
4000 North Big Spring, Suite 401, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

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 2,500 mg/kg (GRO+DRO+MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 20,000 mg/kg.

Soil Assessment and Analytical Results

On January 6, 2020, Tetra Tech personnel were onsite to evaluate and sample the release area. A total of four (4) auger holes (AH-1 through AH-4) were installed to total depths ranging from 0-1' below surface. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B 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.

Referring to Table 1, all samples analyzed showed benzene, total BTEX, and TPH concentrations were below the reclamation thresholds. However, elevated chloride concentrations were detected, all below RRAL, but there were exceptions above the 600 mg/kg reclamation threshold. The areas of AH-1 and AH-3 showed chloride concentrations above 600 mg/kg that were not vertically defined at total depths ranging from 0-1' below surface. The areas of AH-2 and AH-4 showed chloride highs of 1,850 mg/kg and 1,080 mg/kg at 0-1', respectively.

Remediation and Reclamation Activities

Based on the results of the soil assessment, Tetra Tech personnel were onsite February 25, 2020 and March 5, 2020, to supervise the remediation and reclamation activities as well as to collect confirmation samples. On February 25, 2020, the impacted areas were excavated to total depths ranging from 1.5'-2.0' below surface, and on March 5, 2020, the impacted areas of Bottom Hole 1 and Bottom Hole 2 were excavated an additional 0.5' to a total of 2.0'. The excavation map and data is shown on Figure 4 and highlighted (green) on Table 1.

Confirmation bottom hole and sidewall samples were collected every 8 square feet, a total of 8 bottom hole samples (Bottom Hole 1 through Bottom Hole 8) and 4 sidewall samples (N1SW, S1SW, E1SW, W1SW) were collected to ensure proper removal of the impacted soils. Additionally, on March 5, 2020, two (2) additional soil samples were taken for Bottom Hole 1 and Bottom Hole 2. The samples were submitted to the laboratory to be analyzed for TPH method 8015 extended, BTEX method 8021B, and Chloride by EPA Method 300.0. The sampling results are summarized in Table 1. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The excavation depths and sample locations are shown in Figure 4.

Referring to Table 1, all final confirmation samples collected showed benzene, total BTEX, and TPH concentrations below the RRALs. Additionally, all final samples, showed chloride concentrations below the 600 mg/kg threshold.

Approximately 77 cubic yards of material was excavated and transported offsite for proper disposal. The areas were then backfilled with clean material to surface grade.

TETRA TECH

Conclusion

Based on the laboratory results and remediation activities performed, EOG requests closure of this spill issue. The final C-141 is 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

Brittany Long,
Environmental Scientist/Biologist

Clair Gonzales,
Project Manager, P.G.

cc: James Kennedy – EOG
Todd Wells - EOG

Figures

SITE LOCATION

N
W E
S

0 10,416.5 20,833

Approximate Scale in Feet

STATE LOCATOR MAP

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

OVERVIEW MAP
OHKAY SWD #3
Property Located at coordinates 32.154541°,-103.921890°
EDDY COUNTY, NEW MEXICO

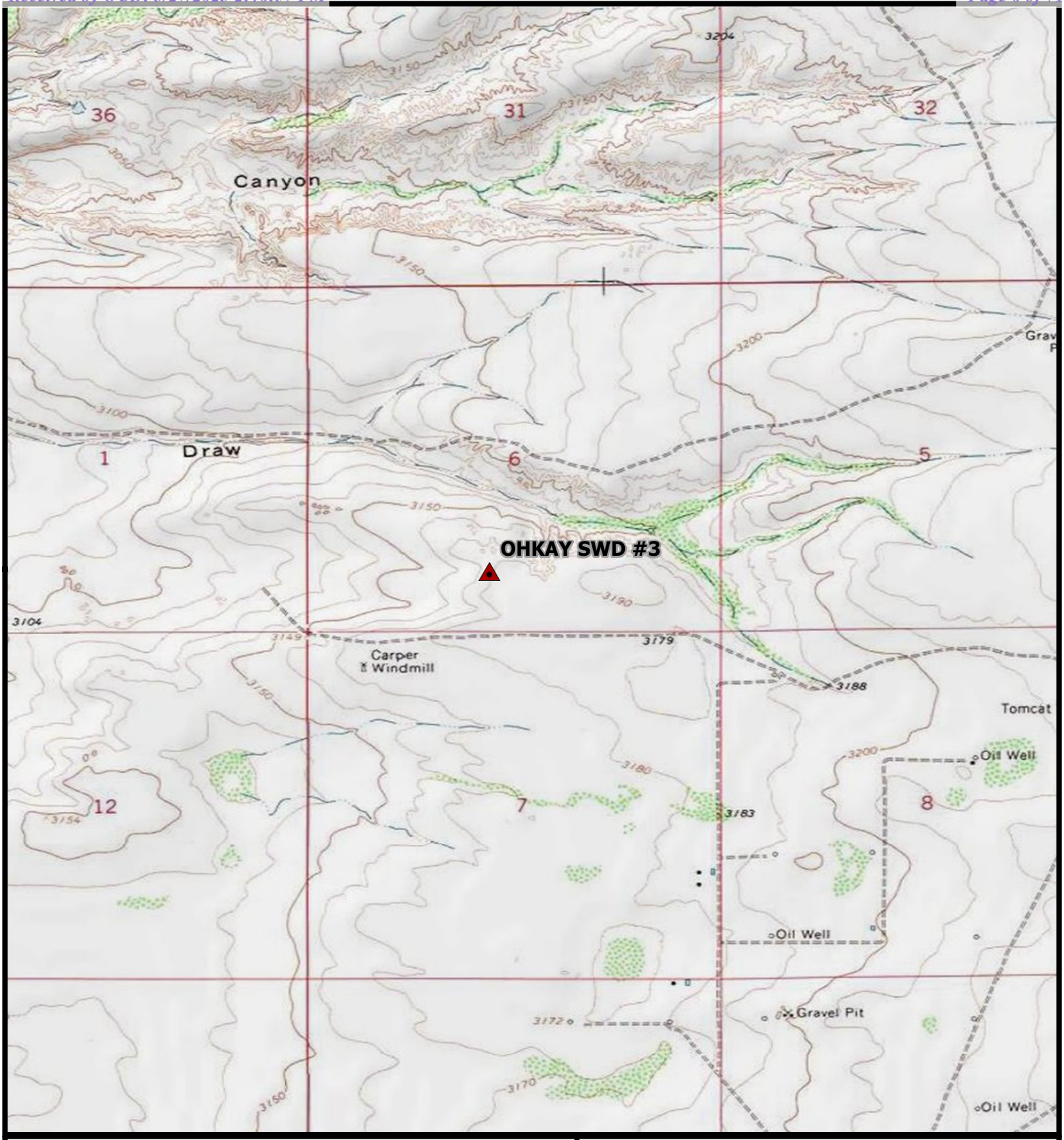
eog resources

TETRA TECH
901 W Wall St Ste. 100,
Midland, TX 79701
(432) 682-4559

Project #: 212C-MD-02041
Date: 03-27-2020
Drawn By: MLM

FIGURE 1

Document Path: H:\GIS\EOG RESOURCES\212C-MD-02041 OHKAY SWD #3\MXD\Template with data viewer.mxd



SITE LOCATION

N
W E
S

0 1,000 2,000

Approximate Scale in Feet

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

TOPOGRAPHIC MAP
OHKAY SWD #3
Property Located at coordinates 32.154541°,-103.921890°
EDDY COUNTY, NEW MEXICO

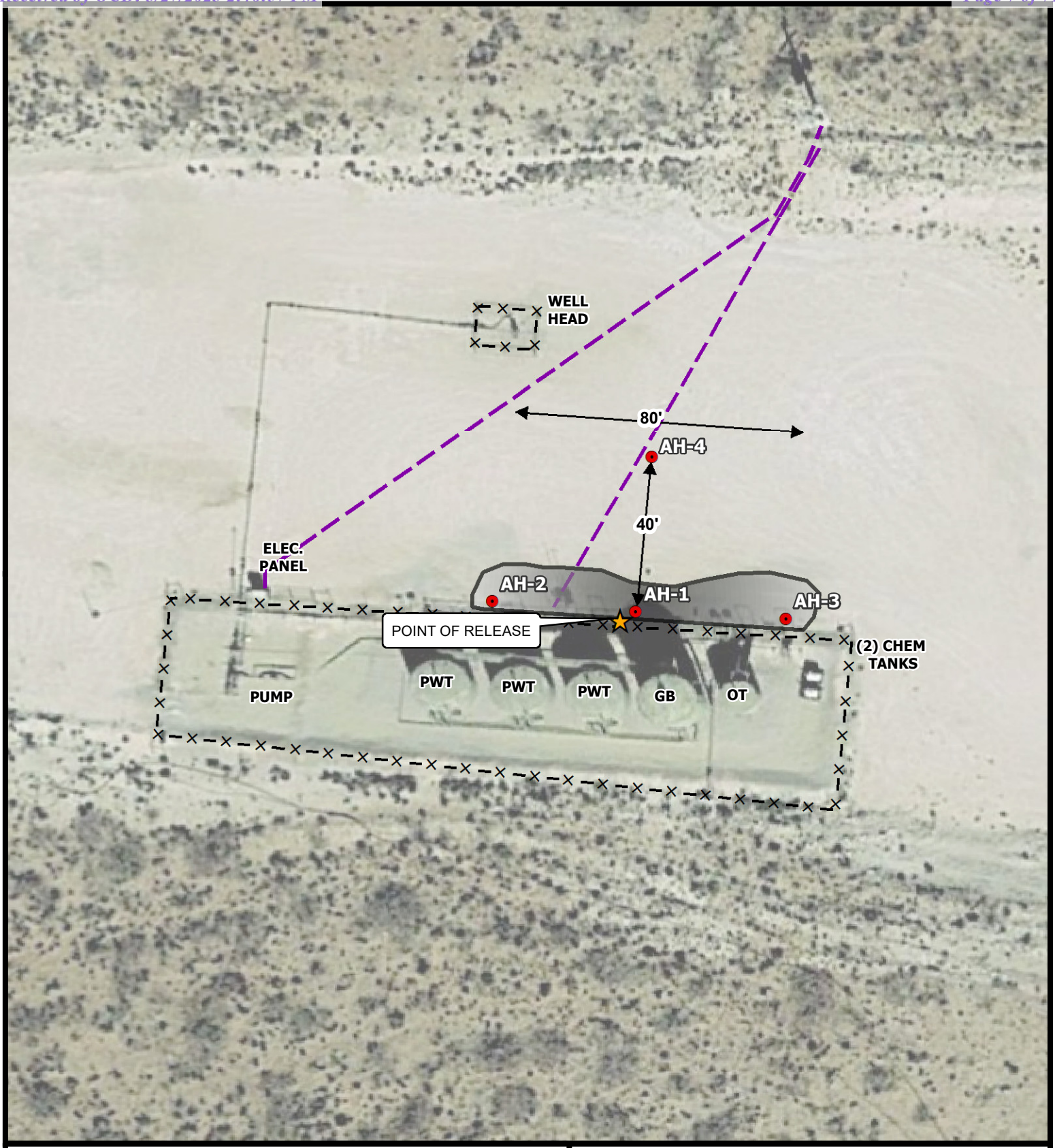
eog resources

TETRA TECH
901 W Wall St Ste. 100,
Midland, TX 79701
(432) 682-4559

Project #: 212C-MD-02041
Date: 03-27-2020
Drawn By: MLM

FIGURE 2

Document Path: H:\GIS\EOG RESOURCES\212C-MD-02041 OHKAY SWD #3\MXD\212C-MD-02041 OHKAY SWD #3 FIG. 2.mxd



AUGERHOLE SAMPLE LOCATIONS
FENCELINE
BURIED LINE
SPILL AREA

N
W E
S

0 20 40
Approximate Scale in Feet

SPILL ASSESSMENT MAP
OHKAY SWD #3
Property Located at coordinates 32.154541°,-103.921890°
EDDY COUNTY, NEW MEXICO

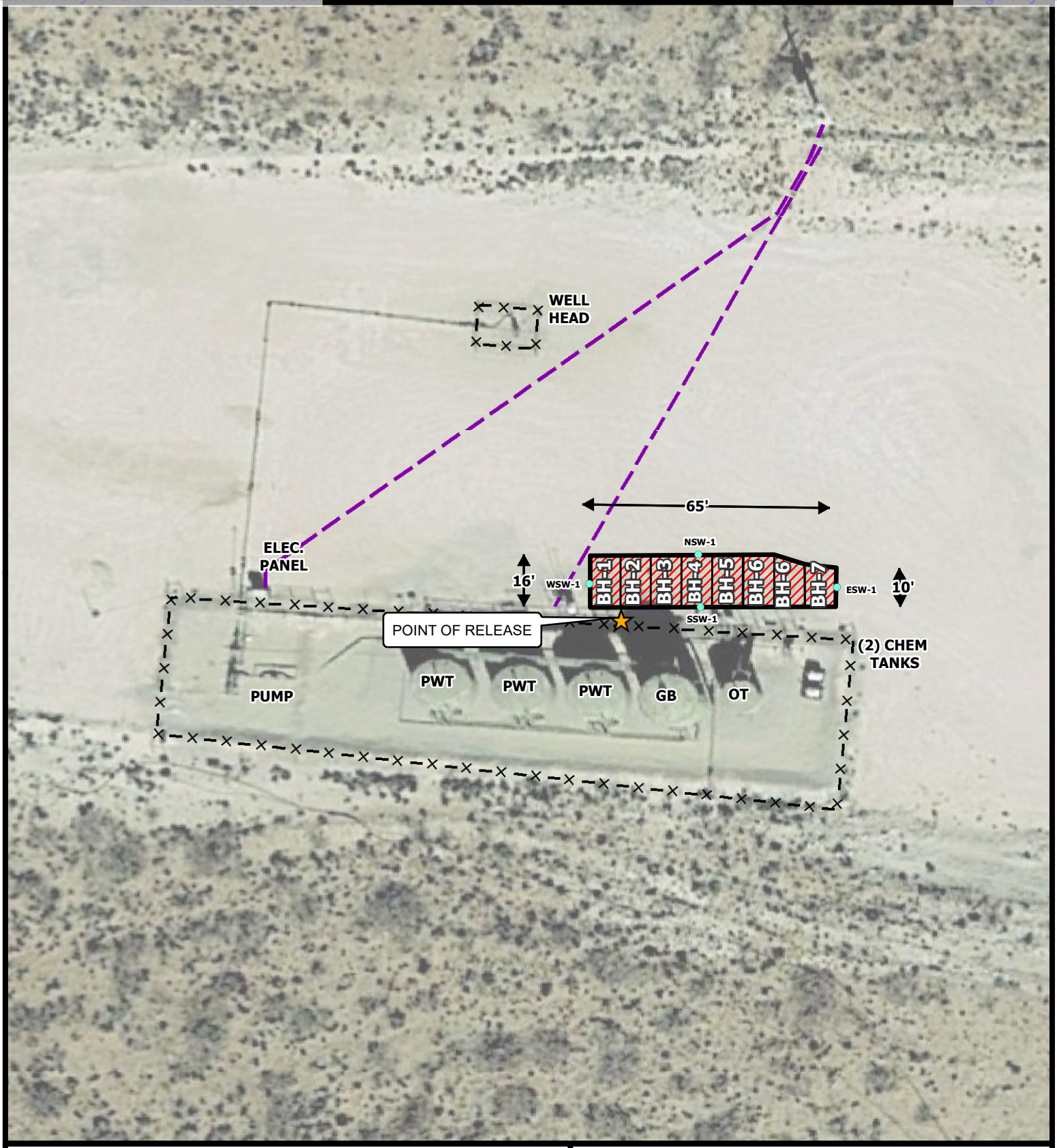
eog resources

TETRA TECH
901 W Wall St Ste. 100,
Midland, TX 79701
(432) 682-4559

Project #: 212C-MD-02041
Date: 03-27-2020
Drawn By: MLM

FIGURE 3

Date: 3/27/2020 Document Path: H:\GIS\EOG RESOURCES\212C-MD-02041 OHKAY SWD #3\MXD\212C-MD-02041 OHKAY SWD #3 FIG. 3.mxd



BH = BOTTOM HOLE
SIDEWALL SAMPLE LOCATIONS
FENCELINE
BURIED LINE
2.0' DEPTH AREA

N
W
E
S

0 20 40
Approximate Scale in Feet

EXCAVATION AREA & DEPTH MAP
OHKAY SWD #3
Property Located at coordinates 32.154541°,-103.921890°
EDDY COUNTY, NEW MEXICO

eog resources

TETRA TECH
901 W Wall St Ste. 100,
Midland, TX 79701
(432) 682-4559

Project #: 212C-MD-02041
Date: 03-27-2020
Drawn By: MLM

FIGURE 4

Date: 3/27/2020 Document Path: H:\GIS\EOG RESOURCES\212C-MD-02041 OHKAY SWD #3\MXD\212C-MD-02041 OHKAY SWD #3 FIG. 4.mxd

Tables

Table 1
EOG
Ohkay SWD #3
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	1/6/2020	0-1		X	<49.9	98.4	<49.9	98.4	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	1,850
AH-2	1/6/2020	0-1		X	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	77.1
AH-3	1/6/2020	0-1		X	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	1,080
AH-4	1/6/2020	0-1		X	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	45.1
BH-1	2/25/2020	1.5		X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	848
BH-1	3/5/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	336
BH-2	2/25/2020	1.5		X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	848
BH-2	3/5/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	512
BH-3	2/25/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	464
BH-4	2/25/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	384
BH-5	2/25/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	176
BH-6	2/25/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	112
BH-7	2/25/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	192
BH-8	2/25/2020	2.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	208
North 1 Sidewall	2/25/2020	–	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	176
East 1 Sidewall	2/25/2020	–	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	80
West 1 Sidewall	2/25/2020	–	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	384
South 1 Sidewall	2/25/2020	–	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	416

Photos

EOG
Ohkay SWD #3
Eddy County, New Mexico

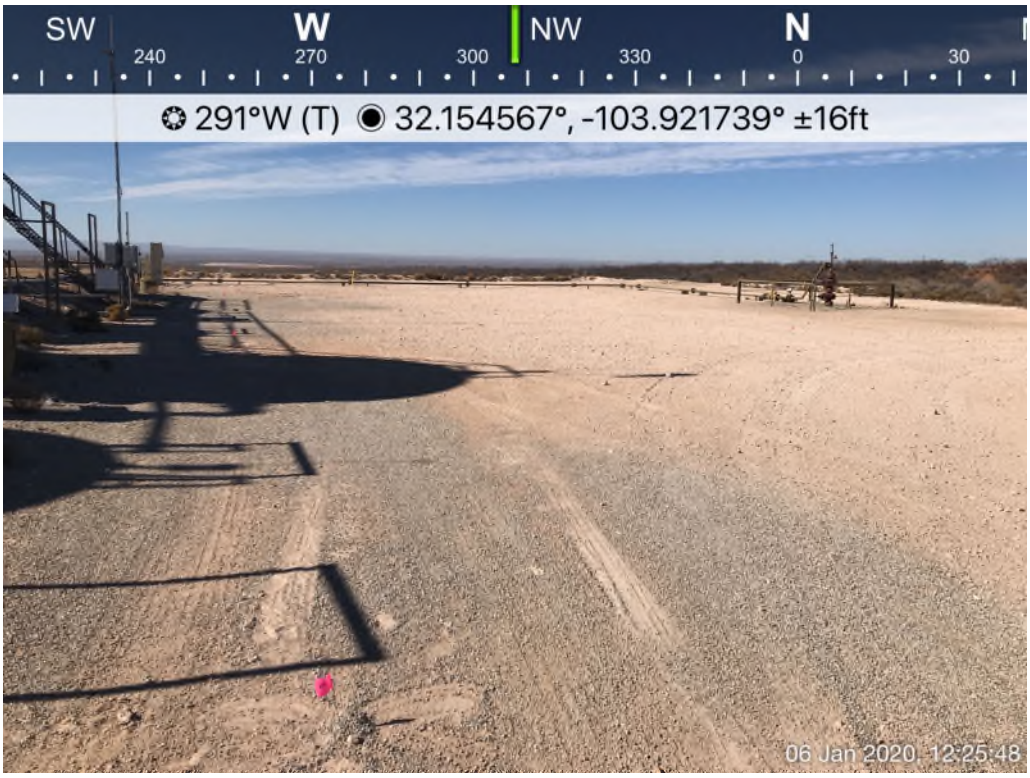
TETRA TECH

View of Release – View South

View of Release – View Southeast

EOG
Ohkay SWD #3
Eddy County, New Mexico

TETRA TECH



View of Release – View Northwest

View of Remediation Activities

EOG
Ohkay SWD #3
Eddy County, New Mexico

TETRA TECH

View of Remediation Activities

View of Remediation Activities

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) 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		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: James F Kennedy Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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	
District RP	
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: James F Kennedy 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	
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: _____ Date: _____

Printed Name: _____ Title: _____

Bratcher, Mike, EMNRD

From: Amanda Trujillo [atrujillo@yatespetroleum.com]
Sent: Wednesday, February 23, 2011 5:30 PM
To: Bratcher, Mike, EMNRD
Cc: Jerry Fanning
Subject: OhKay SWD #3

Mr. Bratcher:

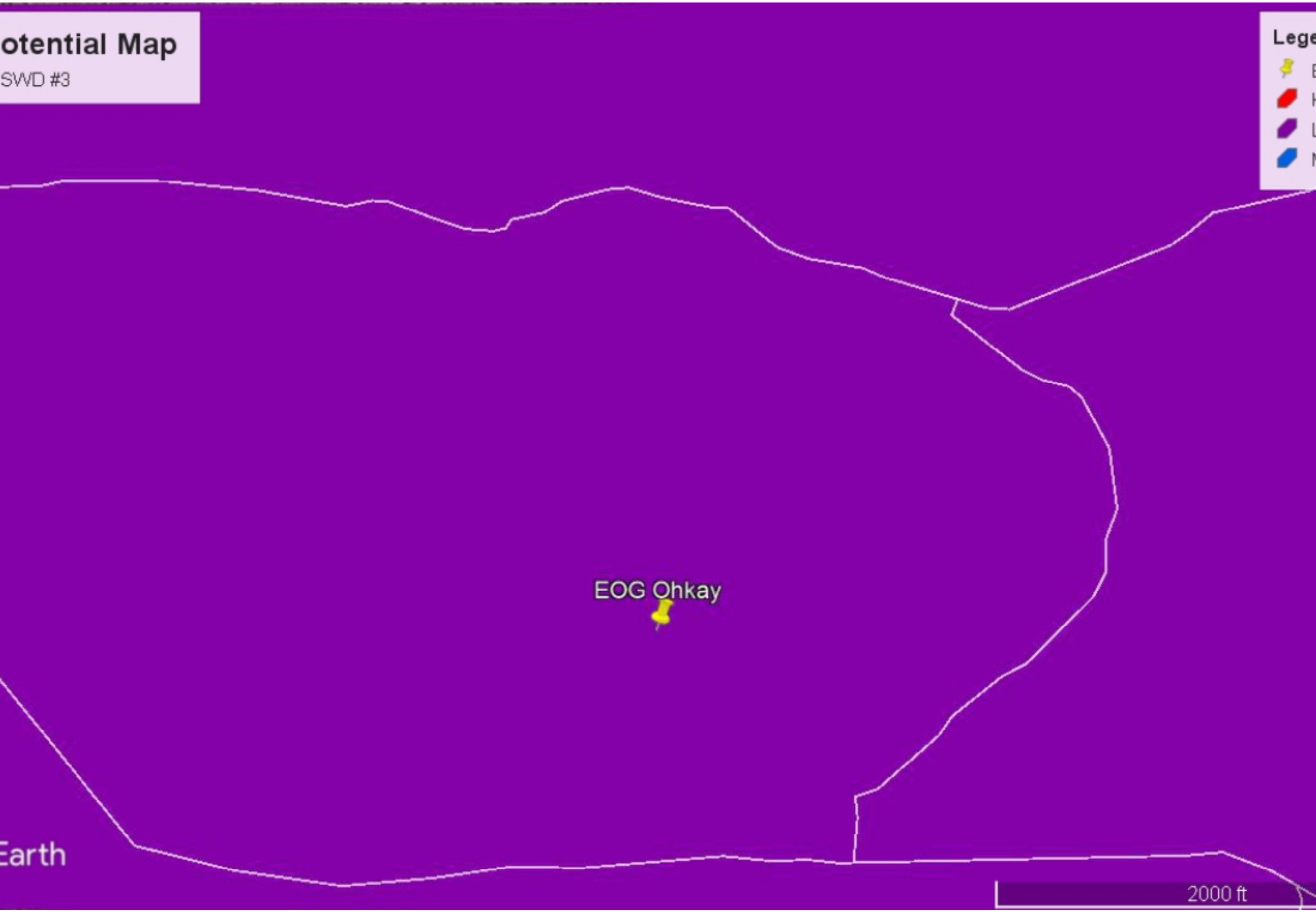
Yates Petroleum reports a release at the following location:

Ohkay SWD #3
Section 6, Township 25 South, Range 30 East
Eddy County
Date of Release: 02-17-2011
Approximately 60 barrels of water were released 10 barrels recovered
Cause of release has been isolated and repairs were completed
Vacuum truck on site recovered standing fluids
Site will be evaluated and a work plan for remediation will be submitted for consideration.

Please excuse the tardiness with this report there was a mix up with field personnel and the copy of the report. If you should have any questions please feel free to contact me at the number below.

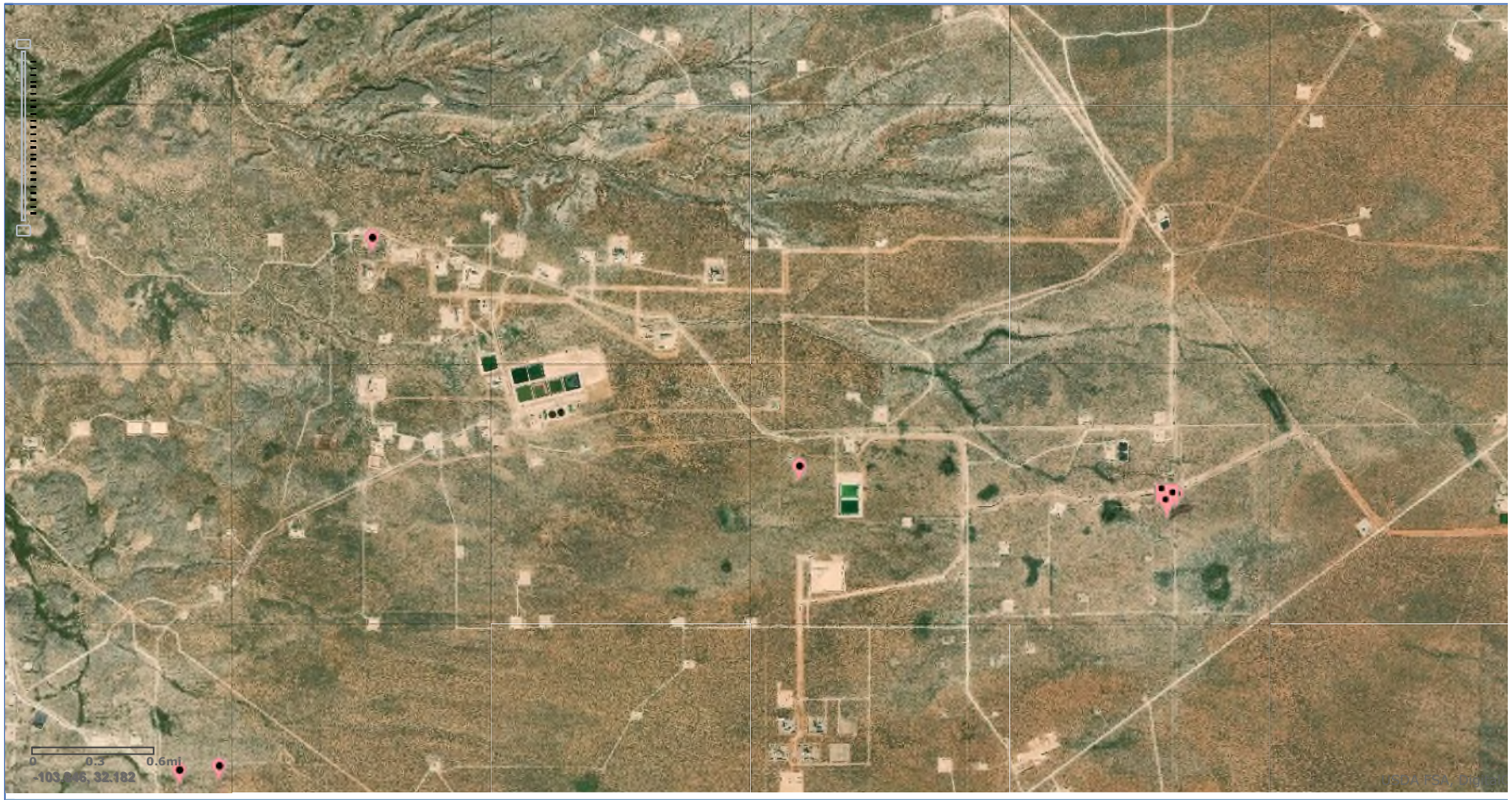
Amanda N. Trujillo
Environmental Scientist
Yates Petroleum Corporation
Office 575-748-4310
Cell 575-703-6537
Email atrujillo@yatespetroleum.com

Appendix B

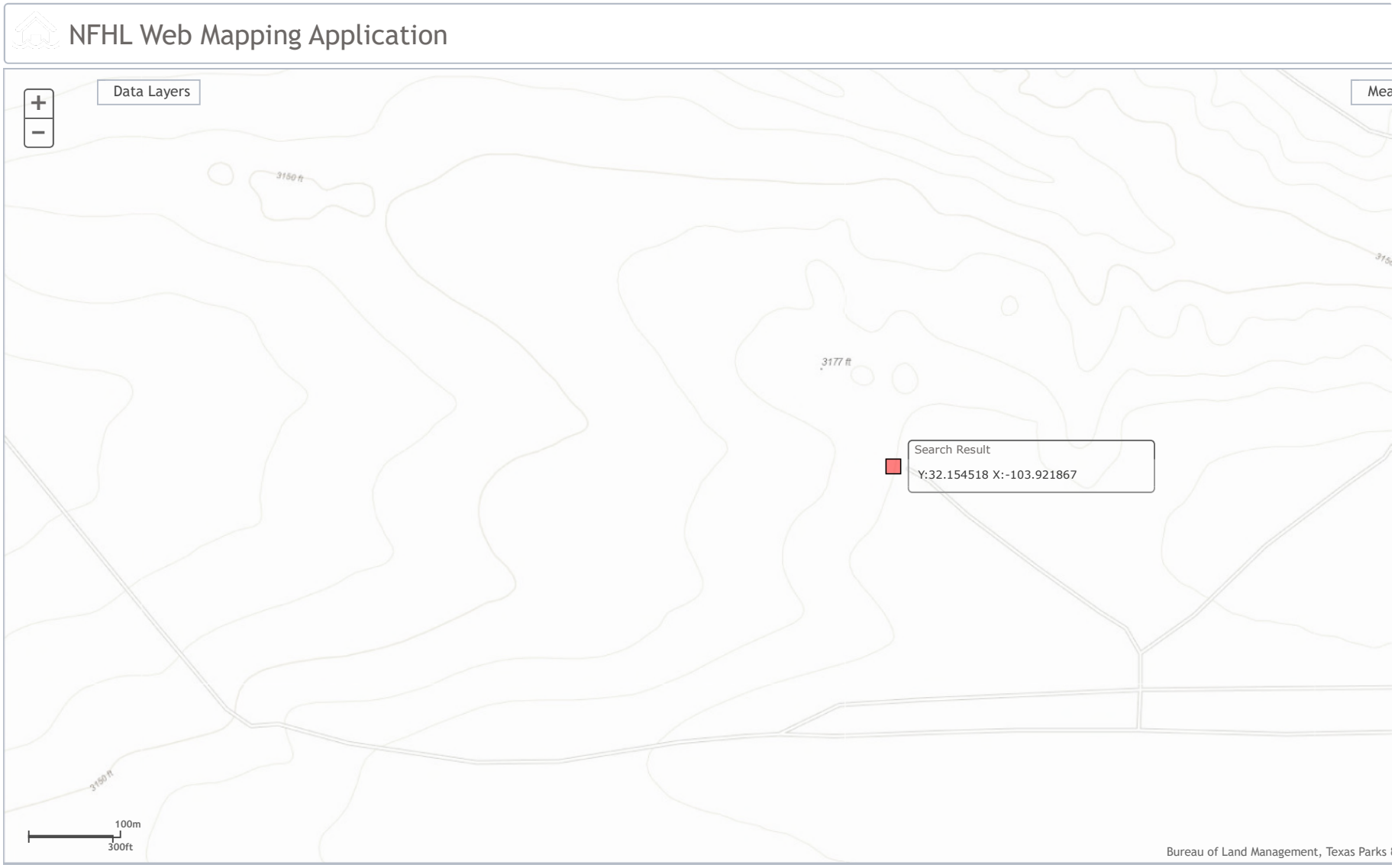

otential Map
SWD #3
Lege
EOG Ohkay
Earth
2000 ft

USGS science for a changing world

National Water Information System: Mapper



Site Information


NFHL Web Mapping Application
Data Layers
Mea
3150 ft
3177 ft
Search Result
Y:32.154518 X:-103.921867
3150 ft
100m
300ft
Bureau of Land Management, Texas Parks

National Water Information System: Web Interface

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 =

- 320857103553301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

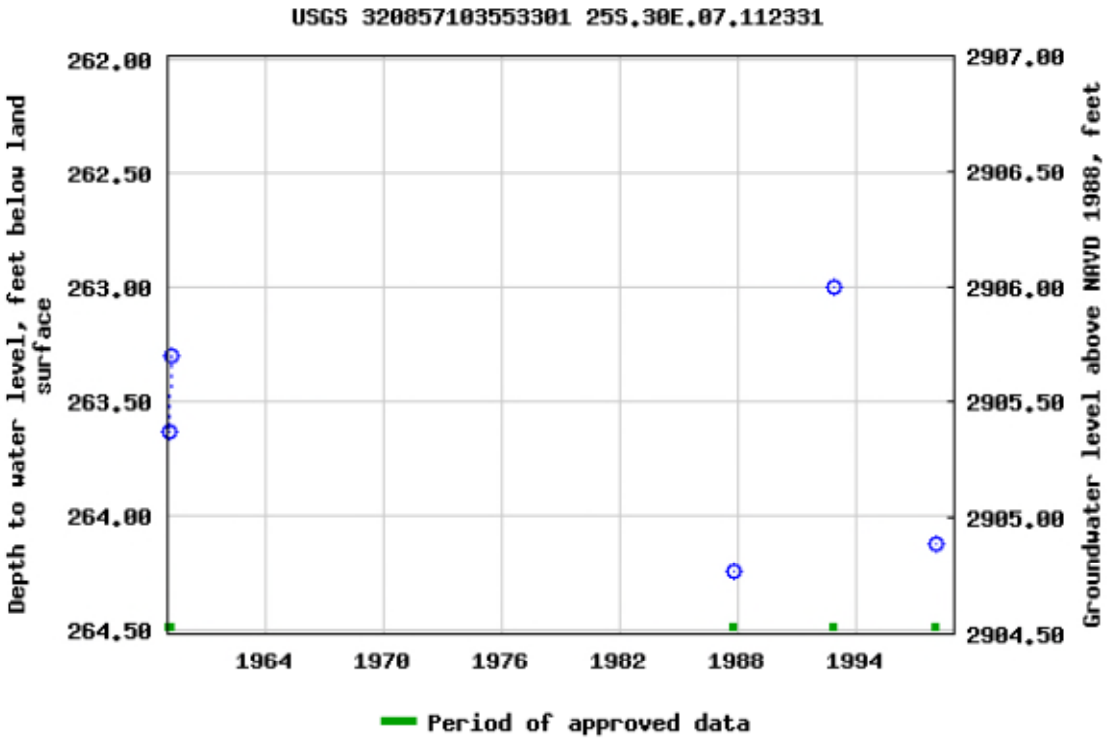
USGS 320857103553301 25S.30E.07.112331

Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°08'57", Longitude 103°55'33" NAD27
Land-surface elevation 3,169 feet above NAVD88
The depth of the well is 385 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

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

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: 2020-01-08 16:13:51 EST
0.57 0.48 nadww01

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	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01379	C	ED	4	4	3	10	25S	30E	606571	3556355*	400		
C 03716 POD1	CUB	ED	4	2	2	02	25S	30E	609069	3559211	600	425	175
C 03781 POD1	CUB	ED	3	3	3	13	25S	30E	609306	3554761	720	325	395
C 03782 POD1	CUB	ED	4	3	3	28	25S	30E	604526	3551444	805	277	528
C 03891 POD1	CUB	ED	4	4	2	01	25S	30E	610608	3558890	635	429	206

Average Depth to Water: **364 feet**

Minimum Depth: **277 feet**

Maximum Depth: **429 feet**

Record Count: 5

PLSS Search:

Township: 25S **Range:** 30E

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

Water Well Data
Average Depth to Groundwater (ft)
EOG - Ohkay SWD #3
Eddy County, New Mexico

24 South 29 East

6	5	4	3	2	1
7 160	8	9	10	11	12
18	17 4	16 18	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 30 East

6	5	4	3	2	1
7	8 186	9	10	11	12
18	17	16	15	14	13
19 231 150	20	21	22	23 400	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 31 East

6	5	4	3	2 205 160	1
7	8	9	10	11	12
18	17 74	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33 474	34	35	36

25 South 29 East

6 40	5	4	3	2	1
7	8	9	10 40	11	12
18	17	16	15 60	14	13
19	20	21	22	23	24
30 30	29	28	27	26	25
31	32 115	33	34	35	36

25 South 30 East

6	5	4	3	2 295	1
7 264	8	9 295	10	11	12 390
18	17	16	15	14	13
19	20	21 265 268	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 390 290	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 29 East

6	5 78	4	3	2	1
7	8	9	10	11	12
18	17	16 125	15	14	13
19	20	21	22 57 69	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 30 East

6	5 179 180	4	3	2	1
7	8 172	9	10	11	12
18	17	16	15	14	13
19	20	21	22 117	23	24 180
30	29	28	27	26	25
31	32	33	34	35	36

26 South 31 East

6	5	4	3	2	1 335 287
7	8 295 275	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

Appendix C

Certificate of Analysis Summary 647999

Tetra Tech- Midland, Midland, TX

Project Name: Ohkay SWD #3

Project Id: pending
Contact: Mike Carmona
Project Location: Eddy Co, NM

Date Received in Lab: Mon Jan-06-20 02:05 pm
Report Date: 08-JAN-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	647999-001		647999-002		647999-003		647999-004					
	Field Id:	AH#1 (0-1')		AH#2 (0-1')		AH#3 (0-1')		AH#4 (0-1')					
	Depth:	0-1 ft		0-1 ft		0-1 ft		0-1 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jan-06-20 00:00		Jan-06-20 00:00		Jan-06-20 00:00		Jan-06-20 00:00					
BTEX by EPA 8021B	***Extracted:***	Jan-06-20 15:00		Jan-06-20 15:00		Jan-06-20 15:00		Jan-06-20 15:00					
	Analyzed:	Jan-06-20 17:05		Jan-06-20 17:23		Jan-06-20 17:40		Jan-06-20 17:57					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202				
Toluene		<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202				
Ethylbenzene		<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202				
m,p-Xylenes		<0.00396	0.00396	<0.00404	0.00404	<0.00402	0.00402	<0.00403	0.00403				
o-Xylene		<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202				
Total Xylenes		<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202				
Total BTEX		<0.00198	0.00198	<0.00202	0.00202	<0.00201	0.00201	<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	Jan-06-20 15:00		Jan-06-20 15:00		Jan-06-20 15:00		Jan-06-20 15:00					
	Analyzed:	Jan-06-20 15:56		Jan-06-20 16:12		Jan-06-20 16:18		Jan-06-20 16:24					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		1850	49.4	77.1	9.98	1080	50.4	45.1	10.0				
TPH By SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Jan-07-20 08:00		Jan-07-20 08:00		Jan-07-20 08:00		Jan-07-20 08:00					
	Analyzed:	Jan-07-20 09:39		Jan-07-20 09:59		Jan-07-20 10:18		Jan-07-20 10:18					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.8	49.8	<49.8	49.8	<49.8	49.8				
Diesel Range Organics (DRO)		98.4	49.9	<49.8	49.8	<49.8	49.8	<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8	<49.8	49.8	<49.8	49.8				
Total TPH		98.4	49.9	<49.8	49.8	<49.8	49.8	<49.8	49.8				

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

Jessica Kramer
Project Assistant

Final 1.000

Analytical Report 647999

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Ohkay SWD #3

pending

08-JAN-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

08-JAN-20

Project Manager: **Mike Carmona**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **647999**
Ohkay SWD #3
Project Address: Eddy Co, NM

Mike Carmona:

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 XENCO Report Number(s) 647999. 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 XENCO Laboratories. 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. 647999 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 XENCO Laboratories 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 Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH#1 (0-1')	S	01-06-20 00:00	0 - 1 ft	647999-001
AH#2 (0-1')	S	01-06-20 00:00	0 - 1 ft	647999-002
AH#3 (0-1')	S	01-06-20 00:00	0 - 1 ft	647999-003
AH#4 (0-1')	S	01-06-20 00:00	0 - 1 ft	647999-004

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Ohkay SWD #3

Project ID: *pending*
Work Order Number(s): *647999*

Report Date: *08-JAN-20*
Date Received: *01/06/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112464 Chloride by EPA 300
Lab Sample ID 647999-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 647999-001, -002, -003, -004.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3112466 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3112515 TPH by SW8015 Mod
Lab Sample ID 647999-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Gasoline Range Hydrocarbons (GRO) recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 647999-001, -002, -003, -004.
The Laboratory Control Sample for Gasoline Range Hydrocarbons (GRO) is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#1 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-001	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112464				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1850**	49.4	mg/kg	01.06.20 15.56		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.07.20 08.00	Basis:	Wet Weight
Seq Number:	3112515			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.07.20 09.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	**98.4**	49.9	mg/kg	01.07.20 09.39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.07.20 09.39	U	1
Total TPH	PHC635	**98.4**	49.9	mg/kg	01.07.20 09.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	01.07.20 09.39	
o-Terphenyl	84-15-1	129	%	70-135	01.07.20 09.39	

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#1 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-001	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.06.20 17.05	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.06.20 17.05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.06.20 17.05	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.06.20 17.05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.06.20 17.05	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.06.20 17.05	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.06.20 17.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.06.20 17.05	
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.06.20 17.05	

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#2 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-002	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112464				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**77.1**	9.98	mg/kg	01.06.20 16.12		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.07.20 08.00	Basis:	Wet Weight
Seq Number:	3112515			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.07.20 09.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.07.20 09.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.07.20 09.59	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.07.20 09.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	01.07.20 09.59	
o-Terphenyl	84-15-1	125	%	70-135	01.07.20 09.59	

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#2 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-002	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.06.20 17.23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.06.20 17.23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.06.20 17.23	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.06.20 17.23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.06.20 17.23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.06.20 17.23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.06.20 17.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.06.20 17.23	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.06.20 17.23	

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#3 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-003	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112464				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1080**	50.4	mg/kg	01.06.20 16.18		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.07.20 08.00	Basis:	Wet Weight
Seq Number:	3112515			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.07.20 10.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.07.20 10.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.07.20 10.18	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.07.20 10.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	01.07.20 10.18	
o-Terphenyl	84-15-1	121	%	70-135	01.07.20 10.18	

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#3 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-003	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.06.20 17.40	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.06.20 17.40	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.06.20 17.40	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.06.20 17.40	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.06.20 17.40	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.06.20 17.40	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.06.20 17.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	01.06.20 17.40	
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.06.20 17.40	

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#4 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-004	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112464				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.1**	10.0	mg/kg	01.06.20 16.24		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.07.20 08.00	Basis:	Wet Weight
Seq Number:	3112515			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.07.20 10.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.07.20 10.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.07.20 10.18	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.07.20 10.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	01.07.20 10.18	
o-Terphenyl	84-15-1	124	%	70-135	01.07.20 10.18	

Certificate of Analytical Results 647999

Tetra Tech- Midland, Midland, TX

Ohkay SWD #3

Sample Id:	**AH#4 (0-1')**	Matrix:	Soil	Date Received:	01.06.20 14.05
Lab Sample Id:	647999-004	Date Collected:	01.06.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.06.20 15.00	Basis:	Wet Weight
Seq Number:	3112466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.06.20 17.57	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.06.20 17.57	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.06.20 17.57	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.06.20 17.57	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.06.20 17.57	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.06.20 17.57	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.06.20 17.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	01.06.20 17.57	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.06.20 17.57	

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.

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

QC Summary 647999

Tetra Tech- Midland

Ohkay SWD #3

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112464 Matrix: Solid Date Prep: 01.06.20
MB Sample Id: 7693779-1-BLK LCS Sample Id: 7693779-1-BKS LCSD Sample Id: 7693779-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	248	99	245	98	90-110	1	20	mg/kg	01.06.20 15:45	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3112464 Matrix: Soil Date Prep: 01.06.20
Parent Sample Id: 647999-001 MS Sample Id: 647999-001 S MSD Sample Id: 647999-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1850	198	2000	76	2040	96	90-110	2	20	mg/kg	01.06.20 16:01	X

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112515 Matrix: Solid Date Prep: 01.07.20
MB Sample Id: 7693809-1-BLK LCS Sample Id: 7693809-1-BKS LCSD Sample Id: 7693809-1-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	1270	127	1310	131	70-135	3	35	mg/kg	01.07.20 09:19	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1240	124	70-135	2	35	mg/kg	01.07.20 09:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		134		130		70-135	%	01.07.20 09:19
o-Terphenyl	114		125		121		70-135	%	01.07.20 09:19

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3112515 Matrix: Solid Date Prep: 01.07.20
MB Sample Id: 7693809-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.07.20 08:59	

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

QC Summary 647999

Tetra Tech- Midland

Ohkay SWD #3

Analytical Method: TPH By SW8015 Mod | Prep Method: SW8015P
Seq Number: 3112515 | Matrix: Soil | Date Prep: 01.07.20
Parent Sample Id: 647999-001 | MS Sample Id: 647999-001 S | MSD Sample Id: 647999-001 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)	<50.1	1000	1420	142	1210	122	70-135	16	35	mg/kg	01.07.20 12:31	X
Diesel Range Organics (DRO)	98.4	1000	1350	125	1130	104	70-135	18	35	mg/kg	01.07.20 12:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		123		70-135	%	01.07.20 12:31
o-Terphenyl	107		96		70-135	%	01.07.20 12:31

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3112466 | Matrix: Solid | Date Prep: 01.06.20
MB Sample Id: 7693780-1-BLK | LCS Sample Id: 7693780-1-BKS | LCSD Sample Id: 7693780-1-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	0.110	110	0.108	108	70-130	2	35	mg/kg	01.06.20 13:03	
Toluene	<0.00200	0.100	0.109	109	0.108	108	70-130	1	35	mg/kg	01.06.20 13:03	
Ethylbenzene	<0.00200	0.100	0.108	108	0.106	106	71-129	2	35	mg/kg	01.06.20 13:03	
m,p-Xylenes	<0.00400	0.200	0.222	111	0.220	110	70-135	1	35	mg/kg	01.06.20 13:03	
o-Xylene	<0.00200	0.100	0.109	109	0.107	107	71-133	2	35	mg/kg	01.06.20 13:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		102		101		70-130	%	01.06.20 13:03
4-Bromofluorobenzene	97		103		102		70-130	%	01.06.20 13:03

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3112466 | Matrix: Soil | Date Prep: 01.06.20
Parent Sample Id: 647999-001 | MS Sample Id: 647999-001 S | MSD Sample Id: 647999-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.103	104	0.0960	97	70-130	7	35	mg/kg	01.06.20 15:56	
Toluene	<0.00198	0.0990	0.0951	96	0.0880	89	70-130	8	35	mg/kg	01.06.20 15:56	
Ethylbenzene	<0.00198	0.0990	0.0801	81	0.0725	73	71-129	10	35	mg/kg	01.06.20 15:56	
m,p-Xylenes	<0.00396	0.198	0.163	82	0.147	74	70-135	10	35	mg/kg	01.06.20 15:56	
o-Xylene	<0.00198	0.0990	0.0814	82	0.0739	75	71-133	10	35	mg/kg	01.06.20 15:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		70-130	%	01.06.20 15:56
4-Bromofluorobenzene	106		102		70-130	%	01.06.20 15:56

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

XENCO LABORATORIES

Chain of Custody

Work Order No: 647999

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com Page 1 of 1

Project Manager:	MIKE CARMONA	Bill to: (If different)	JAMES KENNEDY
Company Name:	TETRA TECH	Company Name:	EOG
Address:	901 W. WALL ST.	Address:	
City, State ZIP:	MIDLAND, TX 79701	City, State ZIP:	
Phone:		Email:	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	ONKAY SWD #3	Turn Around	
Project Number:	PENDING	Routine	☑
Project Location	Eddy Co, NM	Rush:	
Sampler's Name:	CONNER MOEHRING	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	4.1	Thermometer ID	
Received Intact:	Yes No	T-NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	4

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	Chloride	BTEX 8021B	TPH 8015M	Sample Comments
	AH#1 (0-1')	Soil	1/6/20		(0-1)	1		X	X	X	
	AH#2 (0-1')	Soil	1/6/20		(0-1)	1		X	X	X	
	AH#3 (0-1')	Soil	1/6/20		(0-1)	1		X	X	X	
	AH#4 (0-1')	Soil	1/6/20		(0-1)	1		X	X	X	

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Conner Moehring		1/6/2020 1405	2		
3			4		
5			6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 01.06.2020 02.05.00 PM

Work Order #: 647999

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#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)?	**No**
#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: Elizabeth McClellan Date: 01.06.2020

Checklist reviewed by: Jessica Kramer Date: 01.08.2020

Jessica Kramer

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 26, 2020

CLAIR GONZALES

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: OH KAY SWD 3

Enclosed are the results of analyses for samples received by the laboratory on 02/25/20 15:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: N 1 SW (H000600-01)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	02/26/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *100 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *107 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: S 1 SW (H000600-02)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.3 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**416**	16.0	02/26/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *99.0 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *105 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: E 1 SW (H000600-03)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.0 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *99.1 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *103 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: W 1 SW (H000600-04)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.3 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**384**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *98.0 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *102 %* *42.2-156*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 1 (H000600-05)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.9 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**848**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *92.2 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *95.3 %* *42.2-156*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 2 (H000600-06)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.5 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**848**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *92.7 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *95.4 %* *42.2-156*

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 3 (H000600-07)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *94.0 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *98.5 %* *42.2-156*

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 4 (H000600-08)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**384**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *92.1 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *93.7 %* *42.2-156*

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CARDINAL Laboratories

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Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 5 (H000600-09)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *98.2 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *103 %* *42.2-156*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 6 (H000600-10)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.5 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *97.9 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *99.3 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 7 (H000600-11)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.7 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *98.3 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *102 %* *42.2-156*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BH 8 (H000600-12)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.5 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	02/26/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *92.2 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *97.1 %* *42.2-156*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of 2

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG
Site Manager: Clair Gonzales
Project Name: OhKay SWD 3
Project Location: (county, state) Eddy Co, NM
Project #: 212C-MD-02041
Invoice to: EOG - James Kennedy
Receiving Laboratory: Cardinal
Sampler Signature: Tony Legarda
Comments:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY) H000600	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2020)	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE HCL	PRESERVATIVE HNO_3	PRESERVATIVE ICE	PRESERVATIVE None	# CONTAINERS	FILTERED (Y/N)	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	Hold
1	N1 SW	2/25			X			X		1	N	X		X												X				
2	S1 SW																													
3	E1 SW																													
4	W1 SW																													
5	BH 1																													
6	BH 2																													
7	BH 3																													
8	BH 4																													
9	BH 5																													
10	BH 6	↓			↓			↓		↓	↓	↓		↓												↓				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Antonio E. Luna [signature]	2/25/20	15:05	Samara Aldaba [signature]	2-25-20	15:05

LAB USE ONLY
Sample Temperature #113 4.7°c

REMARKS:
- [ ] STANDARD
- [x] RUSH: Same Day (24 hr) 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) (HAND DELIVERED) FEDEX UPS Tracking #: ____

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Analysis Request of Chain of Custody Record

Page 2 of 2

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG

Site Manager: Clair Gonzales

Project Name: Oh Kay SWD3

Project Location: (county, state) Eddy Co, NM

Project #: 212C-MD-02041

Invoice to: EOG - James Kennedy

Receiving Laboratory: Cardinal

Sampler Signature: Tony Legarda

Comments:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY) H000600	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: ~~2019~~ 2020)	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	HNO$_3$	ICE	None	# CONTAINERS	FILTERED (Y/N)	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	Hold
11	BH7	2/25			X			X		1	N	X		X												X				
12	BH8	2/25			X			X		1	N	X		X												X				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Antonio E. Lahuz	2/25/20	15:05	Samara Aldaf...	2-25-20	1505

LAB USE ONLY
Sample Temperature
#113
4.7c°

REMARKS:

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

(Circle) (HAND DELIVERED) FEDEX UPS Tracking #: ____

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

March 06, 2020

CLAIR GONZALES

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: OH KAY SWD 3

Enclosed are the results of analyses for samples received by the laboratory on 03/05/20 13:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2020	Sampling Date:	03/05/2020
Reported:	03/06/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BOTTOM HOLE 1 (H000720-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2020	ND	1.80	89.9	2.00	10.5	
Toluene*	<0.050	0.050	03/05/2020	ND	1.79	89.6	2.00	10.9	
Ethylbenzene*	<0.050	0.050	03/05/2020	ND	1.82	90.9	2.00	10.8	
Total Xylenes*	<0.150	0.150	03/05/2020	ND	5.27	87.8	6.00	10.7	
Total BTEX	<0.300	0.300	03/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	03/05/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2020	ND	210	105	200	0.805	
DRO >C10-C28*	<10.0	10.0	03/05/2020	ND	215	107	200	2.23	
EXT DRO >C28-C36	<10.0	10.0	03/05/2020	ND					

Surrogate: 1-Chlorooctane *92.1 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *99.1 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2020	Sampling Date:	03/05/2020
Reported:	03/06/2020	Sampling Type:	Soil
Project Name:	OH KAY SWD 3	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02041	Sample Received By:	Tamara Oldaker
Project Location:	EOG - EDDY CO NM		

Sample ID: BOTTOM HOLE 2 (H000720-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2020	ND	1.80	89.9	2.00	10.5	
Toluene*	<0.050	0.050	03/05/2020	ND	1.79	89.6	2.00	10.9	
Ethylbenzene*	<0.050	0.050	03/05/2020	ND	1.82	90.9	2.00	10.8	
Total Xylenes*	<0.150	0.150	03/05/2020	ND	5.27	87.8	6.00	10.7	
Total BTEX	<0.300	0.300	03/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	03/05/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2020	ND	210	105	200	0.805	
DRO >C10-C28*	<10.0	10.0	03/05/2020	ND	215	107	200	2.23	
EXT DRO >C28-C36	<10.0	10.0	03/05/2020	ND					

Surrogate: 1-Chlorooctane *78.3 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *87.0 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG

Site Manager: Clair Gonzales

Project Name: Oh Kay SWD 3

Project Location: (county, state) Eddy CO

Project #: 212C-MD-02041

Invoice to: EOG - James Vennelly

Receiving Laboratory: Cadinal

Sampler Signature: Justin Flores

Comments:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2019)	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)	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 / Sulfate / TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
H000720																																		
1	Bottom hole 1	3.5.20	13:28		X				X			1	N	X		X												X						
2	Bottom hole 2	3.5.20	13:28		X				X			1	N	X		X												X						

Relinquished by: Justin Flores Date: 3.5.20 Time:

Received by: Tamara Oldaker Date: 3-5-20 Time: 1330

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature #113 3.8°C

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 #:

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Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 201165

CONDITIONS

Operator: OWL SWD OPERATING, LLC 20 Greenway Plaza Houston, TX 77046	OGRID: 308339
	Action Number: 201165
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure previously approved on 8/25/2020 by Bradford Billings. Report not uploaded at that time.	3/27/2023