701 Tradewinds Boulevard, Suite C
Midland, Texas 79706
Tel. 432-685-3898
www.ntglobal.com

December 13, 2018

Ms. Christina Hernandez
New Mexico Oil Conservation District
Energy, Minerals and Natural Resources Department
1625 N. French Drive
Hobbs, NM 88240

Re: Site Assessment Report
Vaca Line Strike
1RP-5243
EOG Resources, Inc.
Site Location: Unit A, Sec. 36, T 24-S, R 33-E
(Lat 32.180794º, Long -103.518761º)
Lea County, New Mexico

Dear Ms. Hernandez:

At the request of EOG Resources, Inc. (EOG), New Tech Global Environmental, LLC (NTGE) has prepared this letter to document assessment activities following a release at the Vaca Line Strike (Site). The Site is an active produced water line at the intersection of Vaca Lane and Resource Lane within Unit C, Section 36, Township 24 South, Range 33 East, approximately 19.6 miles northwest of Jal, New Mexico (Figures 1 and 2).

Background

According to EOG personnel, on October 10, 2018, a release of approximately 233 barrels (bbls) of produced water occurred when a third party contractor was backfilling an area where a new pipeline header was installed. While backfilling, the bucket of a backhoe caught an existing 4-inch produced water line and caused the release of fluids.

Personnel on site initiated response actions by constructing earthen berms to contain the release. The pipeline flow was stopped and a vacuum truck was used to recover fluids. The amount of fluids recovered was estimated to be 55 bbls. The spill trajectory is illustrated on Figure 3, attached.

A C-141 Form was submitted to the New Mexico Oil Conservation District (NMOCD) on October 22, 2018 and remediation permit (RP) number 1RP-5243 was assigned.

Regulatory Limits

The NMOCD regulatory limits for constituents of concern (COC) commonly associated with E&P substance releases are established in Table 1 of NMAC Rule 19.15.29. The rule dictates the depth to groundwater be determined within 0.5 miles of the affected location. Depth to groundwater will then be used in conjunction with Table 1 to determine regulatory limits for COC.

Regulatory Limits cont.

Groundwater depths were determined using the New Mexico Office of State Engineers – Water Rights Reporting System. No wells were identified within 0.5 miles of the Site. However, EOG agrees to remediate impacts to the lowest levels required by NMAC 19.15.29.

USGS topographic maps were used to identify water sources and significant watercourses within 0.5 miles of the lateral extents of the release. It was determined that one seasonal water source was located approximately 375 feet southwest of the release area (Figure 2).

Site Assessment

On November 6, 2018, NTGE conducted Site assessment activities to determine the vertical and horizontal extents of impacts resulting from the release. A total of nine test pits were installed using a backhoe within the identified spill trajectory area to depths of 0 to 5 feet below ground surface (ft bgs) or until bucket refusal occurred. Soil samples were collected in 1 ft intervals and field screened for chlorides using Hach Quantab Chloride Strips to aid in sample selection. Samples were selected for testing by using the highest field screen result and the lowest depth obtained during sampling. Test pit locations are illustrated on Figure 3, attached. Site Photographs taken at the time of sample collection are included in the attached photographic log.

Soil samples were placed directly into laboratory provided sample containers, stored on ice, and transported under proper chain-of-custody protocol to Xenco Laboratories for chemical analysis. Samples were analyzed for chlorides. Laboratory reports and chain of custody documents are attached. Soil analytical results are presented in Table 1, below.

Table 1 - Analytical Results – Site Assessment
Vaca Line Strike
EOG Resources, Inc.
Lea County, New Mexico

Chloride Concentrations (mg/kg) at Test Pit Locations									
Depth (ft)	**TP1**	**TP2**	**TP3**	**TP4**	**TP5**	**TP6**	**TP7**	**BKGD**	**Regulatory Limit**
0	---	<4.98	---	---	<4.99	<4.99	<4.99	---	**650[A]**
1	---	---	---	---	---	---	---	<4.99	
2	3100	---	287	---	---	---	---	---	
3	---	---	---	715	---	---	---	<4.97	
4	---	---	706	---	---	---	---	---	
5	48.40	13.30	---	140	<4.98	55.80	58.80	<5.00	

— exceeded regulatory limit
mg/kg – milligram per kilogram
ft – feet
A – NMAC 19.15.29

Findings

After reviewing the laboratory results, it is determined that chloride levels of all samples within the spill trajectory, with the exception of TP1-2' (3100 mg/kg), TP3-4' (706 mg/kg), and TP4-3' (715 mg/kg), were below regulatory limits.

Corrective Action Plan

Due to the presence of elevated chloride concentrations at sample location TP1-2', TP3-4', and TP4-3' remedial actions will be necessary to bring the Site into regulatory compliance.

NTGE recommends the following remedial actions:

1) Excavate soils in the area of TP1 to a depth of 3 ft bgs, TP3 to a depth of 5 ft bgs, and TP4 to a depth of 4 ft bgs. Hach Quantab Chloride Strips will be used to field screen sidewalls until horizontal impacts have been removed.
2) Collect samples from the base and sidewalls of the excavation and analyze for chlorides to confirm removal of impacts has been achieved. TP1 confirmation samples will be analyzed for constituents listed in NMAC 19.15.29 Table 1.
3) Once the confirmation samples are determined to be below regulatory limits, backfill excavation with clean soil from a NMOCD approved quarry.

Conclusions

Upon completion of remedial actions a *Remedial Action Report* documenting remedial actions and confirmation sample collection activities will be prepared.

If you have any questions regarding this report or need further information, please contact us at 432-685-3898.

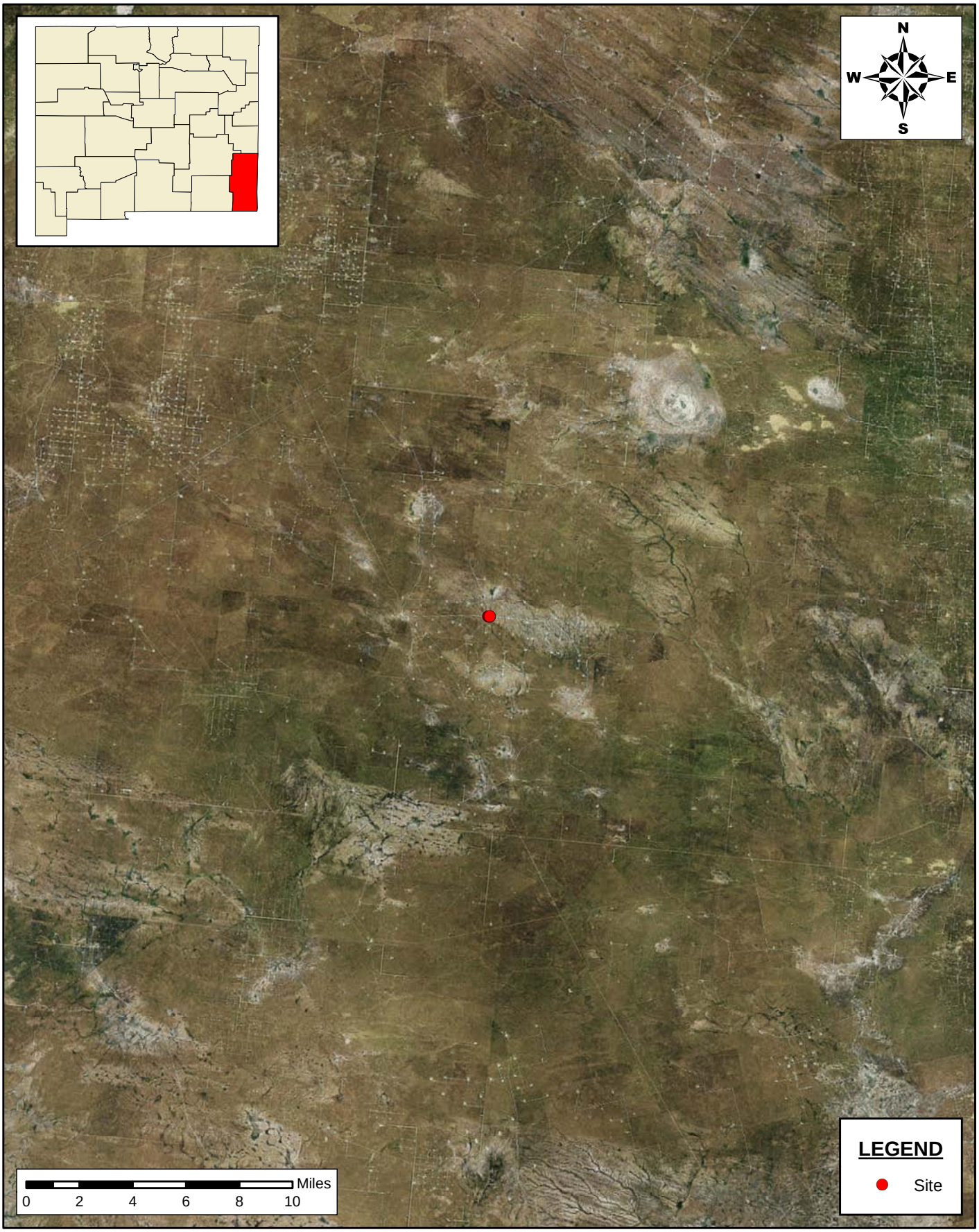
Sincerely,
NTG Environmental

Jay Loudermilk
Staff Scientist

Kari Lazo
Environmental Manager

Attachments: Figures
Photographic Log
Initial C-141 Form
Field Data Form
Laboratory Reports and Chain of Custody Documents

Figures



SITE LOCATION MAP
SITE ASSESSMENT REPORT
EOG RESOURCES
VACA LINE STRIKE
LEA COUNTY, NEW MEXICO

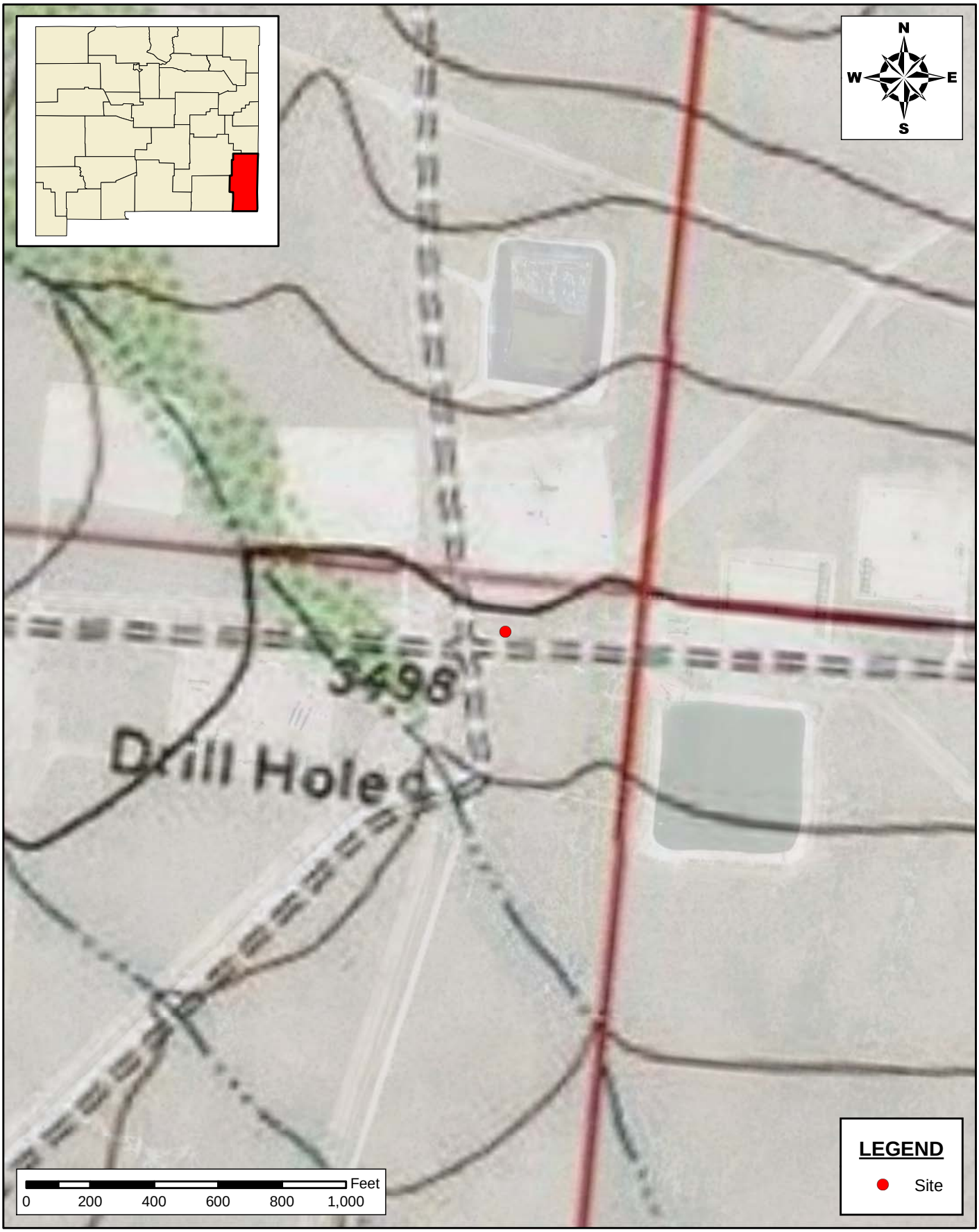
SCALE: AS SHOWN | DATE: 12/11/2018 | PROJECT #: EGO0-R1805645

New Tech Global Environmental, LLC
911 Regional Park Drive
Houston, Texas 77060
T - 281.872.9300
F - 281.872.4521
Web: www.ntglobal.com

NOTES:
1. Base Image: ESRI Maps & Data 2017
2. Map Projection: NAD 1983 UTM Zone 15N

DRAWING NUMBER:
FIGURE 1
SHEET NUMBER:
1 of 1

Document Path: P:\2018 PROJECTS\EOG RESOURCES INC (EOG0)\RSC\EGO0-R1805645 VACA LANE LINESTRIKE\7- Figures\Geodatabase\EGO0-R1805645_FIG 1_SLMap_12112018.mxd



AERIAL MAP
SITE ASSESSMENT REPORT
EOG RESOURCES
VACA LINE STRIKE
LEA COUNTY, NEW MEXICO

SCALE: AS SHOWN | DATE: 12/11/2018 | PROJECT #: EGO0-R1805645

New Tech Global Environmental, LLC
911 Regional Park Drive
Houston, Texas 77060
T - 281.872.9300
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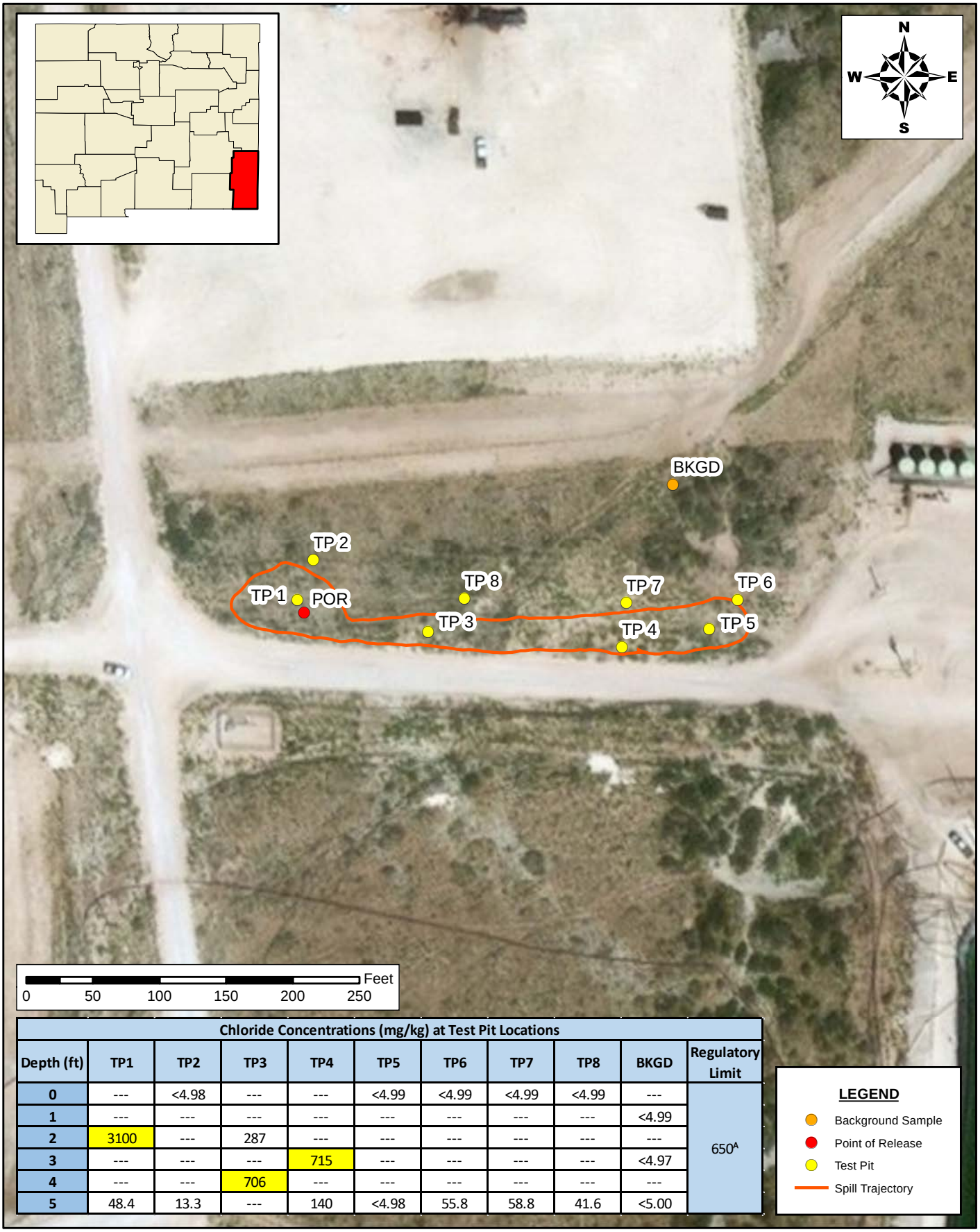
NOTES:
1. Base Image: ESRI Maps & Data 2017
2. Map Projection: NAD 1983 UTM Zone 15N

DRAWING NUMBER:
FIGURE 2
SHEET NUMBER:
1 of 1

Document Path: P:\2018 PROJECTS\EOG RESOURCES INC (EOG0)\RSC\EGO0-R1805645 VACA LANE LINESTRIKE\7- Figures\Geodatabase\EGO0-R1805645_FIG 1_TopoMap_12112018.mxd



Chloride Concentrations (mg/kg) at Test Pit Locations

Depth (ft)	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	BKGD	Regulatory Limit
0	---	<4.98	---	---	<4.99	<4.99	<4.99	<4.99	---	650[A]
1	---	---	---	---	---	---	---	---	<4.99	
2	3100	---	287	---	---	---	---	---	---	
3	---	---	---	715	---	---	---	---	<4.97	
4	---	---	706	---	---	---	---	---	---	
5	48.4	13.3	---	140	<4.98	55.8	58.8	41.6	<5.00	

LEGEND

- Background Sample
- Point of Release
- Test Pit
- Spill Trajectory

AERIAL MAP
SITE ASSESSMENT REPORT
EOG RESOURCES
VACA LINE STRIKE
LEA COUNTY, NEW MEXICO

SCALE: 1"=100' | DATE: 12/12/2018 | PROJECT #: EGO0-R1805645

New Tech Global Environmental, LLC
911 Regional Park Drive
Houston, Texas 77060
T - 281.872.9300
F - 281.872.4521
Web: www.ntglobal.com

NOTES:
1. Base Image: ESRI Maps & Data 2017
2. Map Projection: NAD 1983 UTM Zone 15N

DRAWING NUMBER:
FIGURE 3
SHEET NUMBER:
1 of 1

Document Path: P:\2018 PROJECTS\EOG RESOURCES INC (EOG0)\RSC\EGO0-R1805645 VACA LANE LINESTRIKE\7- Figures\Geodatabase\EGO0-R1805645_FIG 1_AerialMap_12112018.mxd

Table 1 - Analytical Results – Site Assessment
Vaca Line Strike
EOG Resources
Lea County, New Mexico

Sample ID	Sample Depth (ft)	Date	Chloride (mg/kg)
TP1	2	11/6/2018	3100.00
TP1	5	11/6/2018	48.40
TP2	0	11/6/2018	<4.98
TP2	5	11/6/2018	13.30
TP3	2	11/6/2018	287.00
TP3	4	11/6/2018	706.00
TP4	3	11/6/2018	715.00
TP4	5	11/6/2018	140.00
TP5	0	11/6/2018	<4.99
TP5	5	11/6/2018	81.50
TP6	0	11/6/2018	<4.99
TP6	5	11/6/2018	55.80
TP7	0	11/6/2018	<4.99
TP7	5	11/6/2018	58.80
TP8	0	11/6/2018	<4.99
TP8	5	11/6/2018	41.60
BKGD	1	11/6/2018	<4.99
BKGD	3	11/6/2018	<4.97
BKGD	5	11/6/2018	<5.00
Regulatory Limit			**650[A]**

— exceeded regulatory limit

mg/kg – milligram per kilogram

ft – feet

[A] – NMAC 19.15.29

Photographic Log

PHOTOGRAPHIC LOG

EOG RESOURCES, INC

Photograph No. 1

Facility: Vaca Line Strike

County: Lea, NM

Date: 10/31/2018

Photographer: Jay Loudermilk

Description:
View of spill trajectory looking east. Note Resource Lane to the south.

Photograph No. 2

Facility: Vaca Line Strike

County: Lea, NM

Date: 11/06/2018

Photographer: Jay Loudermilk

Description:
View of point of release and area of TP 1 looking southwest. Note intersection of Vaca Lane (N to S) and Resource Land (E to W).

Photograph No. 3

Facility: Vaca Line Strike

County: Lea, NM

Date: 10/31/2018

Photographer: Jay Loudermilk

Description:
View of spill trajectory looking west from area of TP5.

C-141 Form

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	NOY1829558271
District RP	1RP-5243
Facility ID	fOY1829556640
Application ID	pOY1829559003

Release Notification

Responsible Party

Responsible Party: EOG Resources, Inc.	OGRID: 7377
Contact Name: Jamon Hohensee	Contact Telephone: 432-556-8074
Contact email: jamon_hohensee@eogresources.com	Incident # *(assigned by OCD)* NOY1829558271
Contact mailing address: 5509 Champions Drive, Midland Texas 79706	

Location of Release Source

Latitude 32.1808 Longitude -103.5189
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Vaca Lane line strike	Site Type: EOG ROW
Date Release Discovered: 10-10-18	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	36	24S	33E	

State minerals

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)233	Volume Recovered (bbls)55
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A 3rd party contractor was backfilling an area where a pipeline header was installed. While backfilling, the bucket of the backhoe caught a 4" produced water line and caused a release of fluids. The pipeline flow was stopped and a vacuum truck was used to recover fluids. Earthen berms were used to help contain the release. The spill area as calculated by a GPS track of the perimeter was approximately 4,517 square feet. With an average depth of 1' and soil porosity for a fine sandy loam at .29 we estimated that 233 bbls of produced water was released and approximately 55 bbls were recovered by vacuum truck.

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? Yes, over 25bbls of fluids released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Jamon Hohensee sent an email to Olivia Yu and Jim Griswold on 10/11/18 concerning the release.	

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: Jamon Hohensee Title: Environmental Rep.

Signature: Jam H.h Date: 10-22-18

email: jmon_hohensee@eogresources.com Telephone: 432-556-8074

OCD Only

Received by: RECEIVED By Olivia Yu at 4:27 pm, Oct 22, 2018 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.

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: Jay Louvermilk Title: Staff Scientist

Signature: Date: 12/13/18

email: jlouvermilk@ntglobal.com Telephone: 432-312-8049

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: Jay Loudermilk Title: Staff Scientist

Signature: Date: 12/13/18

email: jloudermilk@ntglobal.com Telephone: 432-312-8049

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: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

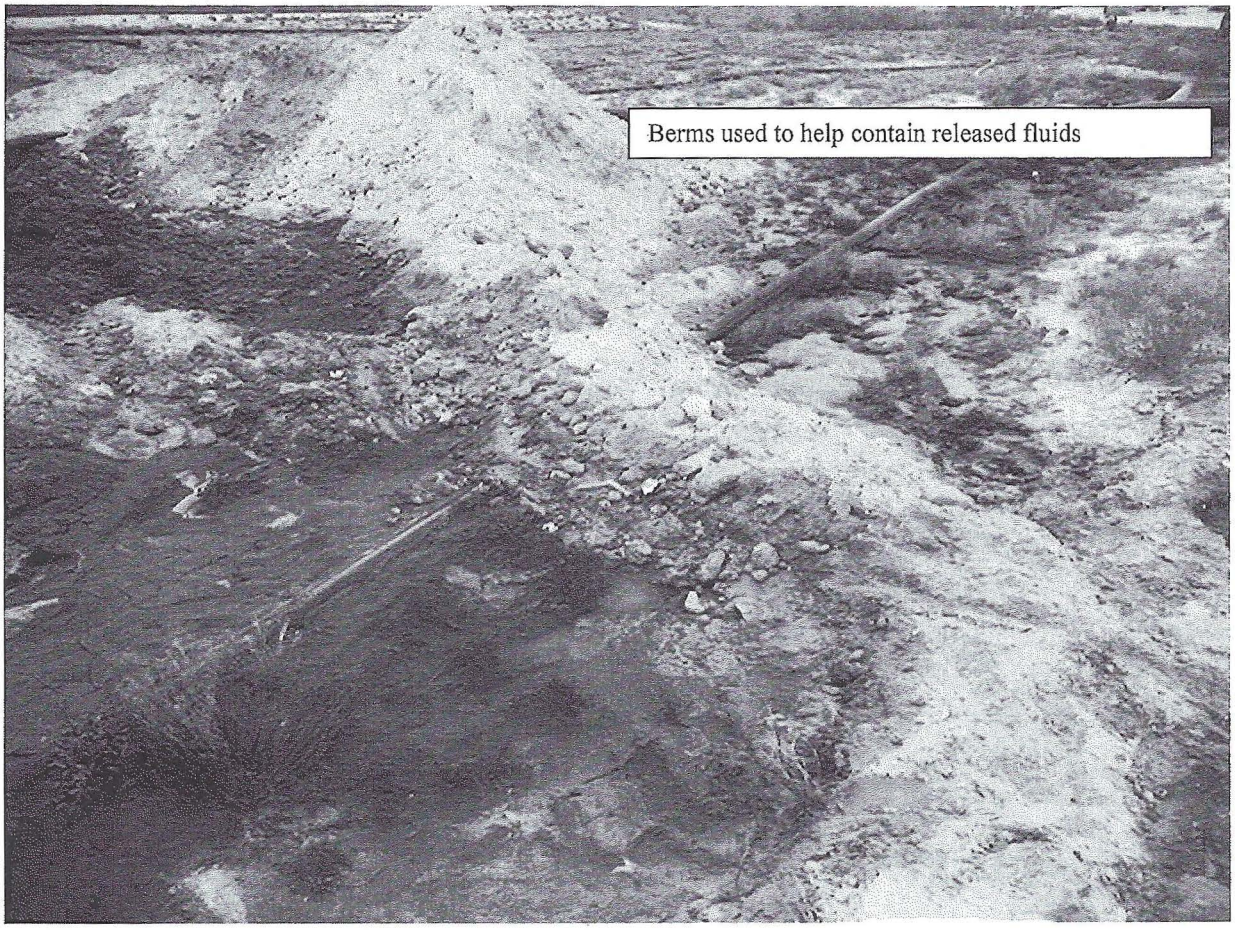
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	



Field Data Form

FIELD SCREENING

NTG ENVIRONMENTAL, LLC

Date	Project No.	Project Name
11/6/18	EOG0-R1805645	Vaca Line Strike
Page 1 of 2	Client EOG	Location Lea, NM

Sampling Time	Sample ID	Depth	PID Reading	Strip Reading (mg/kg)	Strip Reading	Strip Range(LR/HR)
10:00	TP1	0'		<320	0.8	LR
10:05		1'		500	2.2	LR
10:10		2'		3700	6.6	LR
10:15		3'		3020	6.0	LR
10:20		4'		<320	0.8	LR
10:25		5'		<320	0.4	LR
10:30	TP2	0		<320	0.4	LR
10:35		1		<320	0.4	LR
10:40		2		<320	0.4	LR
10:45		3		<320	0.6	LR
10:50	TP 3	0		<320	0.6	LR
10:55		1		2820	5.8	LR
11:00		2		740	2.9	LR
11:05		3		570	2.4	LR
11:10		4		370	1.8	LR
11:15	TP 4	0		<320	0.6	LR
11:20		1		320	1.6	LR
11:25		2		320	1.6	LR
11:30		3		650	2.6	LR
11:35		4		<320	1.4	LR
11:40		5		<320	0.8	LR
11:45	TP5	0		<320	0.2	LR
11:50		1		<320	1.0	LR
11:55		2		<320	0.8	LR
12:00		3		<320	0.6	LR

Comments

Reported By (print, sign, date)

FIELD SCREENING

NTG ENVIRONMENTAL, LLC

Date	Project No.	Project Name
Page 2 of 2	Client	Location

Sampling Time	Sample ID	Depth	PID Reading	Strip Reading (mg/kg)	Strip Reading	Strip Range(LR/HR)
12:05	TP5	4		<320	0.8	LR
12:10		5		<320	0.8	LR
12:15	TP6	0			0.2	LR
12:20		1			0.0	LR
12:25		2			0.2	LR
12:30		3			0.6	LR
12:35		4			0.4	
12:40		5		<320	0.6	LR
12:45	TP7	0			0.0	LR
12:50		1			0.4	LR
12:55		2			0.6	LR
13:00		3			0.4	LR
13:05		4			0.4	LR
13:10		5			0.8	LR
13:15	TP2	0		<320	0.6	LR
13:20		1			0.8	LR
13:25		2			0.8	LR
13:30		3			0.8	LR
13:35		4			0.8	LR
13:40		5			0.8	LR
13:45	BKGD	0			0.0	
13:50		1			0.2	
13:55		2			0.6	
14:00		3			0.8	
14:05		4			0.6	
Comments 14:10		5			Reported By (print, sign, date) 0.6	

Project Number: _____

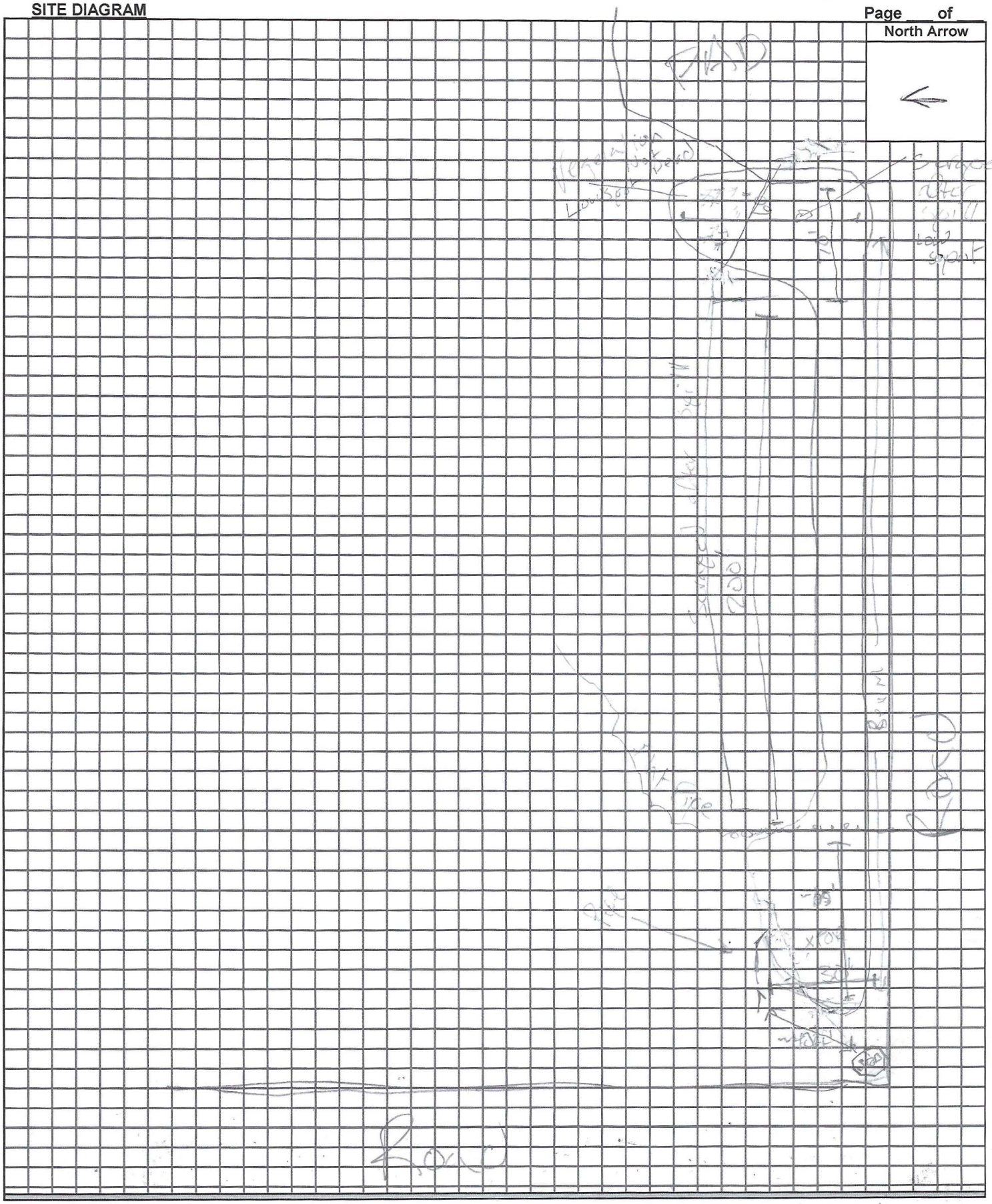
Date: _____

NTG ENVIRONMENTAL

SITE DIAGRAM

Page ___ of ___

North Arrow



Laboratory Reports and Chain of Custody Document

Certificate of Analysis Summary 604637

EOG Resources, Midland, TX

Project Name: Vaca Line Strike

Project Id:

Contact: Jamon Hohensee

Project Location:

Date Received in Lab: Wed Nov-07-18 08:00 am

Report Date: 09-NOV-18

Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	604637-001		604637-002		604637-003		604637-004		604637-005		604637-006	
	Field Id:	TP1 2'		TP1 5'		TP2 0'		TP2 2'		TP3 2'		TP3 4'	
	Depth:	2-		5-		0-		5-		2-		4-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-18 10:10		Nov-06-18 10:25		Nov-06-18 13:15		Nov-06-18 13:40		Nov-06-18 11:00		Nov-06-18 11:10	
Chloride by EPA 300	***Extracted:***	Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00	
	Analyzed:	Nov-07-18 12:12		Nov-07-18 11:57		Nov-07-18 17:58		Nov-07-18 12:23		Nov-07-18 12:28		Nov-07-18 12:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3100	25.1	48.4	4.96	<4.98	4.98	13.3	4.98	287	5.00	706	4.98

Holly Taylor
Project Manager

Certificate of Analysis Summary 604637

EOG Resources, Midland, TX

Project Name: Vaca Line Strike

Project Id:

Contact: Jamon Hohensee

Project Location:

Date Received in Lab: Wed Nov-07-18 08:00 am

Report Date: 09-NOV-18

Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	604637-007		604637-008		604637-009		604637-010		604637-011		604637-012	
	Field Id:	TP4 3'		TP4 5'		TP5 0'		TP5 5'		TP6 0'		TP6 5'	
	Depth:	3-		5-		0-		5-		0-		5-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-18 13:30		Nov-06-18 11:40		Nov-06-18 11:45		Nov-06-18 12:05		Nov-06-18 12:15		Nov-06-18 12:40	
Chloride by EPA 300	***Extracted:***	Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00	
	Analyzed:	Nov-07-18 12:50		Nov-07-18 12:55		Nov-07-18 13:00		Nov-07-18 13:11		Nov-07-18 13:05		Nov-07-18 13:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		715	4.95	140	5.00	<4.99	4.99	81.5	4.98	<4.99	4.99	55.8	4.95

Holly Taylor
Project Manager

Certificate of Analysis Summary 604637

EOG Resources, Midland, TX

Project Name: Vaca Line Strike

Project Id:

Contact: Jamon Hohensee

Project Location:

Date Received in Lab: Wed Nov-07-18 08:00 am

Report Date: 09-NOV-18

Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	604637-013		604637-014		604637-015		604637-016		604637-017		604637-018	
	Field Id:	TP7 0'		TP7 5'		TP8 0'		TP8 5'		BKGD 1'		BKGD 3'	
	Depth:	0-		5-		0-		5-		1-		3-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-18 12:45		Nov-06-18 13:10		Nov-06-18 10:30		Nov-06-18 10:45		Nov-06-18 13:40		Nov-06-18 14:00	
Chloride by EPA 300	***Extracted:***	Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00		Nov-07-18 09:00	
	Analyzed:	Nov-07-18 13:32		Nov-07-18 18:03		Nov-07-18 13:53		Nov-07-18 13:58		Nov-07-18 14:04		Nov-07-18 14:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.99	4.99	58.8	5.00	<4.99	4.99	41.6	4.99	<4.99	4.99	78.6	4.97

Holly Taylor
Project Manager

Certificate of Analysis Summary 604637

EOG Resources, Midland, TX

Project Name: Vaca Line Strike

Project Id:
Contact: Jamon Hohensee
Project Location:

Date Received in Lab: Wed Nov-07-18 08:00 am
Report Date: 09-NOV-18
Project Manager: Holly Taylor

Analysis Requested							
	Lab Id:	604637-019					
	Field Id:	BKGD 5'					
	Depth:	5-					
	Matrix:	SOIL					
	Sampled:	Nov-06-18 14:10					
Chloride by EPA 300	***Extracted:***	Nov-07-18 09:00					
	Analyzed:	Nov-07-18 14:14					
	Units/RL:	mg/kg	RL				
Chloride		<5.00	5.00				

Holly Taylor
Project Manager

Analytical Report 604637

for

EOG Resources

Project Manager: Jamon Hohensee

Vaca Line Strike

09-NOV-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

09-NOV-18

Project Manager: **Jamon Hohensee**
EOG Resources
PO Box 2267
Midland, TX 79707

Reference: XENCO Report No(s): **604637**
Vaca Line Strike
Project Address:

Jamon Hohensee :

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) 604637. 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. 604637 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,

Holly Taylor

Holly Taylor
Project Manager

Sample Cross Reference 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TP1 2'	S	11-06-18 10:10	2	604637-001
TP1 5'	S	11-06-18 10:25	5	604637-002
TP2 0'	S	11-06-18 13:15	0	604637-003
TP2 2'	S	11-06-18 13:40	5	604637-004
TP3 2'	S	11-06-18 11:00	2	604637-005
TP3 4'	S	11-06-18 11:10	4	604637-006
TP4 3'	S	11-06-18 13:30	3	604637-007
TP4 5'	S	11-06-18 11:40	5	604637-008
TP5 0'	S	11-06-18 11:45	0	604637-009
TP5 5'	S	11-06-18 12:05	5	604637-010
TP6 0'	S	11-06-18 12:15	0	604637-011
TP6 5'	S	11-06-18 12:40	5	604637-012
TP7 0'	S	11-06-18 12:45	0	604637-013
TP7 5'	S	11-06-18 13:10	5	604637-014
TP8 0'	S	11-06-18 10:30	0	604637-015
TP8 5'	S	11-06-18 10:45	5	604637-016
BKGD 1'	S	11-06-18 13:40	1	604637-017
BKGD 3'	S	11-06-18 14:00	3	604637-018
BKGD 5'	S	11-06-18 14:10	5	604637-019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP1 2'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-001	Date Collected:	11.06.18 10.10	Sample Depth:	2
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3100**	25.1	mg/kg	11.07.18 12.12		5

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP1 5'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-002	Date Collected:	11.06.18 10.25	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**48.4**	4.96	mg/kg	11.07.18 11.57		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP2 0'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-003	Date Collected:	11.06.18 13.15	Sample Depth:	0
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	11.07.18 17.58	U	1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP2 2'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-004	Date Collected:	11.06.18 13.40	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.3**	4.98	mg/kg	11.07.18 12.23		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP3 2'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-005	Date Collected:	11.06.18 11.00	Sample Depth:	2
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**287**	5.00	mg/kg	11.07.18 12.28		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP3 4'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-006	Date Collected:	11.06.18 11.10	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**706**	4.98	mg/kg	11.07.18 12.44		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP4 3'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-007	Date Collected:	11.06.18 13.30	Sample Depth:	3
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**715**	4.95	mg/kg	11.07.18 12.50		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP4 5'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-008	Date Collected:	11.06.18 11.40	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**140**	5.00	mg/kg	11.07.18 12.55		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP5 0'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-009	Date Collected:	11.06.18 11.45	Sample Depth:	0
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	11.07.18 13.00	U	1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP5 5'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-010	Date Collected:	11.06.18 12.05	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**81.5**	4.98	mg/kg	11.07.18 13.11		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP6 0'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-011	Date Collected:	11.06.18 12.15	Sample Depth:	0
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	11.07.18 13.05	U	1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP6 5'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-012	Date Collected:	11.06.18 12.40	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.8**	4.95	mg/kg	11.07.18 13.27		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP7 0'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-013	Date Collected:	11.06.18 12.45	Sample Depth:	0
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	11.07.18 13.32	U	1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP7 5'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-014	Date Collected:	11.06.18 13.10	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.8**	5.00	mg/kg	11.07.18 18.03		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP8 0'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-015	Date Collected:	11.06.18 10.30	Sample Depth:	0
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	11.07.18 13.53	U	1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**TP8 5'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-016	Date Collected:	11.06.18 10.45	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**41.6**	4.99	mg/kg	11.07.18 13.58		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**BKGD 1'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-017	Date Collected:	11.06.18 13.40	Sample Depth:	1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	11.07.18 14.04	U	1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**BKGD 3'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-018	Date Collected:	11.06.18 14.00	Sample Depth:	3
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**78.6**	4.97	mg/kg	11.07.18 14.09		1

Certificate of Analytical Results 604637

EOG Resources, Midland, TX

Vaca Line Strike

Sample Id:	**BKGD 5'**	Matrix:	Soil	Date Received:	11.07.18 08.00
Lab Sample Id:	604637-019	Date Collected:	11.06.18 14.10	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.07.18 09.00	Basis:	Wet Weight
Seq Number:	3069001				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	11.07.18 14.14	U	1

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 604637

EOG Resources

Vaca Line Strike

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3069001 Matrix: Solid Date Prep: 11.07.18

MB Sample Id: 7665650-1-BLK LCS Sample Id: 7665650-1-BKS LCSD Sample Id: 7665650-1-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	246	98	246	98	90-110	0	20	mg/kg	11.07.18 09:37	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3069001 Matrix: Soil Date Prep: 11.07.18

Parent Sample Id: 604637-002 MS Sample Id: 604637-002 S MSD Sample Id: 604637-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.4	248	286	96	288	97	90-110	1	20	mg/kg	11.07.18 12:02	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3069001 Matrix: Soil Date Prep: 11.07.18

Parent Sample Id: 604637-010 MS Sample Id: 604637-010 S MSD Sample Id: 604637-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	81.5	249	324	97	322	97	90-110	1	20	mg/kg	11.07.18 13:16	

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

Chain of Custody

XENCO LABORATORIES

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

www.xenco.com Page 1 of 2

Work Order No: 604697

Project Manager:	Jamon Hohensee	Bill to: (if different)	
Company Name:	EOG Resources	Company Name:	
Address:	5509 Champions Drive	Address:	
City, State ZIP:	Midland, TX 79706	City, State ZIP:	
Phone:	(432)556-8074	Email:	jamon_hohensee@eogresources.com jloudermilk@ntglobal.com

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:	Vaca Line Strike	Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 48 hr	
Sampler's Name:	JayLoudermilk	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)	
Temperature (°C):	3.5	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	0.0	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chlorides
TP1 2'	S	11/6/18	10:10	2	1	X
TP1 5'	S		10:25	5	1	X
TP2 0'	S		13:15	0	1	X
TP2 5'			13:40	5	1	X
TP3 2'			11:00	2	1	X
TP3 4'			11:10	4	1	X
TP4 3'			11:30	3	1	X
TP4 5'			11:40	5	1	X
TP5 0'			11:45	0	1	X
TP5 5'	↓	↓	12:05	5	1	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

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	11/7/18 0800	11/6/18	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Chain of Custody

XENCO LABORATORIES

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 604637

www.xenco.com Page 2 of 2

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		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:		Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 48HR	
Sampler's Name:		Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)	
Temperature (°C):	3.5	Thermometer ID	108	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	0.0	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chlorides
TP6 0'	S	11/6/18	12:15	0	1	X
TP6 5'	S		12:40	5		
TP7 0'	S		12:45	0		
TP7 5'	S		13:10	5		
TP8 0'	S		10:30	0		
TP8 5'	S		10:45	5		
BKGD 1'	S		13:40	1		
BKGD 3'	S		14:00	3		
BKGD 5'	S		14:10	5	1	X

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

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			11/6/18	2		
3		11/7/18 0900		4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 31 of 32

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: EOG Resources

Date/ Time Received: 11/07/2018 08:00:00 AM

Work Order #: 604637

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**N/A**
#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: 11/07/2018
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 11/07/2018
Holly Taylor