SITE INFORMATION

Report Type: Closure Report 1RP-4747

General Site Information:						
Site:	**Osprey 10 601H**					
Company:	**EOG Resources**					
Section, Township and Range	**Unit M**	**Sec. 10**	**T 25S**	**R 34E**		
Lease Number:	**API No. 30-025-41816**					
County:	**Lea County**					
GPS:	**32.1387º N**			**103.4666º W**		
Surface Owner:	Fee Land					
Mineral Owner:	EOG					
Directions:	From NM-128 and Deleware Basin Rd, go North then East on Deleware Basin Rd 14.3M, Turn South on lease Rd and go approx. 5.3M, Turn East to Location.					

Release Data:	
Date Released:	7/2/2017
Type Release:	Oil
Source of Contamination:	Valve failure
Fluid Released:	50 bbls
Fluids Recovered:	40 bbls

Official Communication:			
Name:	Jamon Hohensee		Ike Tavarez
Company:	EOG Resources		Tetra Tech
Address:	5509 Champions Drive		4000 N. Big Spring
			Ste 401
City:	Midland Texas, 79706		Midland, Texas
Phone number:	(432) 556-8074		(432) 687-8110
Fax:			
Email:	jamon_hohensee@eogresources.com		Ike.Tavarez@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	10	
>100 ft.	***0***	*175'*
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	*0*
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	***0***	*0*
Total Ranking Score:	***0***	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	5,000

TETRA TECH

APPROVED
By Olivia Yu at 12:24 pm, Oct 02, 2018

September 27, 2017

NMOCD grants closure to 1RP-4747.

Ms. Olivia Yu
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Report for the EOG Resources - Osprey 10 601H, Unit M, Section 10, Township 25 South, Range 34 East, Lea County, New Mexico. RP# 1RP-4747.

Ms. Yu:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources., (EOG) to assess a spill from Osprey 10 601H, Unit M, Section 10, Township 25 South, Range 34 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.1387º, W 103.4666º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on July 2, 2017, and released approximately fifty (50) barrels of oil due to the wells relief valve located on the pad. Approximately forty (40) barrels of oil was recovered. Majority of the release was overspray that occurred off the pad in the pasture. The impact in the pasture covered an area of approximately 600' x 200'. The initial C-141 form is included in Appendix A.

Groundwater

No water wells were listed within Section 10 on the New Mexico Office of the State Engineer database. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is around 175' below surface. The groundwater data is shown 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, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels

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

(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 depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On July 31, 2017, Tetra Tech personnel were onsite to collect soil sample of the impacted area in the pasture. A total of four (4) auger holes were installed to assess the impacted soils. Selected soils were analyzed for TPH 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 sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the auger hole samples exceeded the RRALs for TPH, benzene, or total BTEX. All of the sample locations showed total TPH and benzene concentrations below the laboratory reporting limits. A trace of total BTEX concentrations were detected of 0.00202 mg/kg (AH-1), <0.00199 mg/kg (AH-2), <0.00201 mg/kg (AH-3) and <0.00201 mg/kg at 0-1' below surface. Additionally, the areas of auger holes (AH-1, AH-2, AH-3, and AH-4) did not show any significant chloride concentrations to the subsurface soils with a chloride high of 13.1 mg/kg.

Conclusion

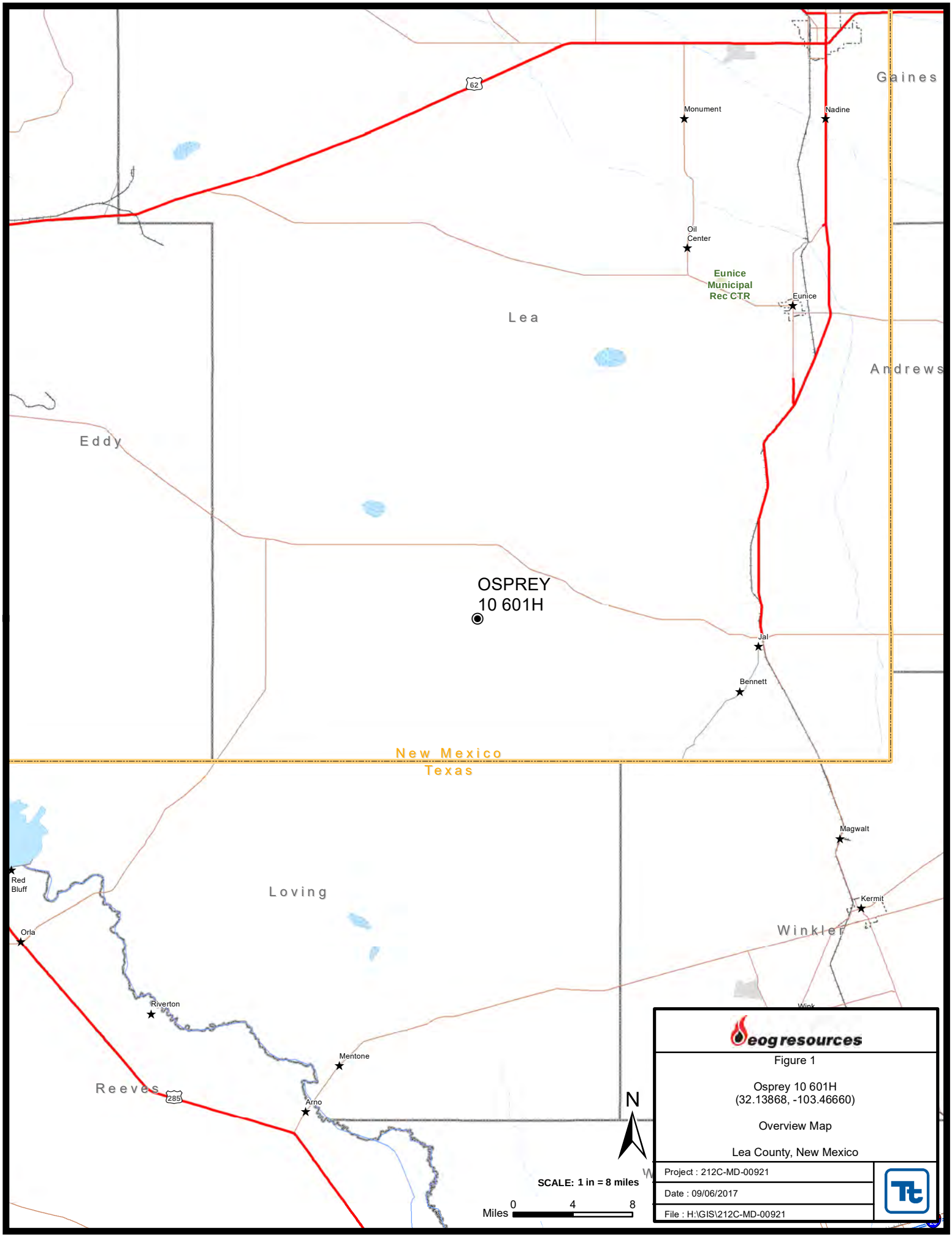
All of the samples were below the RRALs and the chlorides detected were not significant in the soils. Based on the laboratory results, EOG requests closure of this spill issue. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Senior Project Manager

Clair Gonzales,
Geologist I

Figures



eog resources

Figure 1

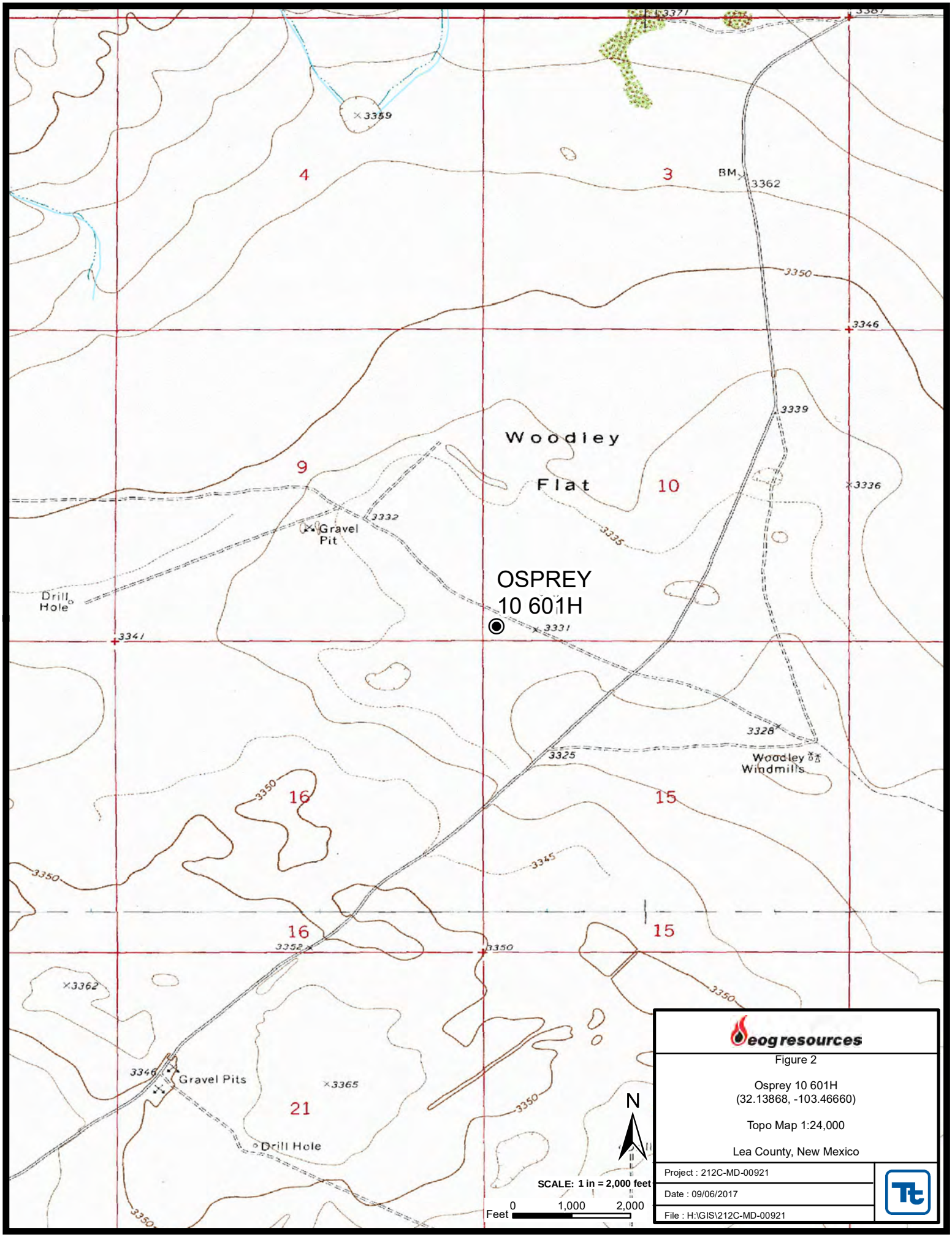
Osprey 10 601H
(32.13868, -103.46660)

Overview Map

Lea County, New Mexico

Project : 212C-MD-00921	
Date : 09/06/2017	
File : H:\GIS\212C-MD-00921	

Mapped By: Isabel Marmolejo



eog resources

Figure 2

Osprey 10 601H
(32.13868, -103.46660)

Topo Map 1:24,000

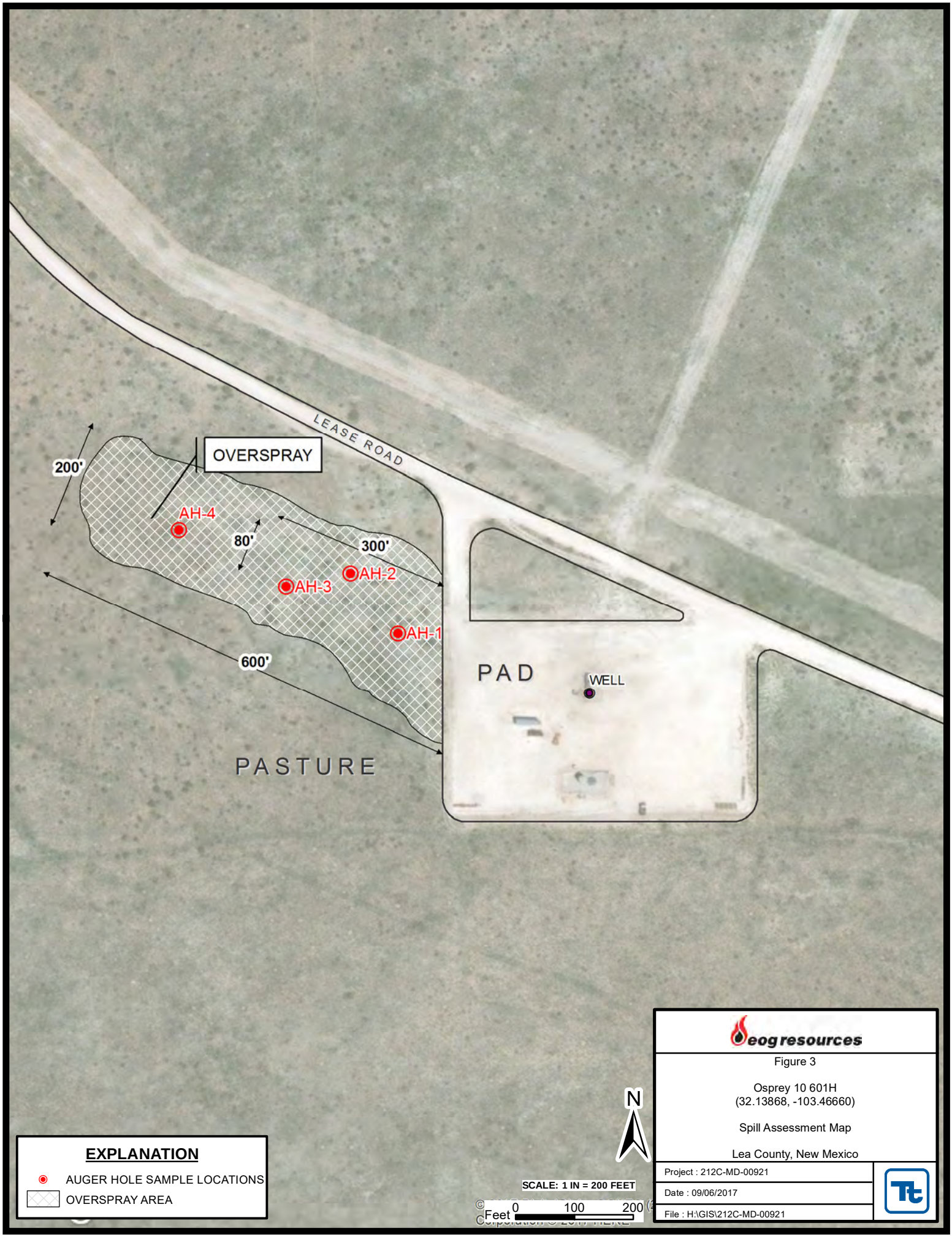
Lea County, New Mexico

Project : 212C-MD-00921

Date : 09/06/2017

File : H:\GIS\212C-MD-00921

Mapped By: Isabel Marmolejo



Mapped By: Isabel Marmolejo

Tables

Table 1
EOG Resources
Osprey 10 601H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB 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	ORO	Total						
AH-1	7/31/2017	0-1	-	X		<15.0	514	113	627	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<4.98
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	-	<4.99
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	-	13.1
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	-	<4.99
	"	5-5.5	-	X		<15.0	16.2	<15.0	16.2	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.97
AH-2	7/31/2017	0-1	-	X		<15.0	42.1	<15.0	42.1	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<4.93
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	-	<4.94
	"	2-2.5	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.94
AH-3	7/31/2017	0-1	-	X		<15.0	59.2	<15.0	59.2	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<4.93
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	-	<4.94
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	-	<4.96
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	-	<4.96
	"	5-5.5	-	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<4.97
AH-4	7/31/2017	0-1	-	X		<15.0	29.8	<15.0	29.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<4.93
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	-	<4.99
	"	2-2.5	-	X		<15.0	<15.0	<15.0	<15.0	<0.00341	<0.00341	<0.00341	<0.00341	<0.00341	<4.93

(-) Not Analyzed

(BEB) Below Excavation Bottom

212C-MD-00921
Xenco Labs

Photos

EOG
Osprey 10 601H
Lea County, New Mexico

View West of Overspray

View North West Overspray

EOG
Osprey 10 601H
Lea County, New Mexico

View East of Overspray

View North, AH#1

EOG
Osprey 10 601H
Lea County, New Mexico

View South, AH#2

View East, AH#3

EOG
Osprey 10 601H
Lea County, New Mexico

View South Overspray

View West, AH#5

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: EOG Resources	Contact: Jamon Hohensee
Address: 5509 Champions Drive, Midland, TX 79706	Telephone No. 432-556-8074
Facility Name: Osprey 10 601H	Facility Type: Well

Surface Owner: Fee Land	Mineral Owner: EOG	API No. 3002541816

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	10	25S	34E					

Latitude 32.1387 **Longitude** -103.4666 NAD83

NATURE OF RELEASE

Type of Release: PW/Oil	Volume of Release: 50bbls	Volume Recovered: 40
Source of Release: Relief valve	Date and Hour of Occurrence: 7/2/17, 7:14pm	Date and Hour of Discovery: 7/2/17, 7:14pm
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 10:35 am, Jul 10, 2017

Describe Cause of Problem and Remedial Action Taken.*

Spray was noticed coming from relief valve on location. Production foreman and lease operator were informed. The well was shut in to relieve the pressure. 50bbls of fluid released 40bbls recovered. Area of overspray was formed off the pad. Production foreman contacted the EOG environmental group.

Describe Area Affected and Cleanup Action Taken.*

Overspray was noticed off the pad location on scrubby vegetation. Standing fluids were recovered by vacuum truck and disposed of properly. No visible surface waters were impacted. 3rd party environmental firm will investigate site and take necessary steps properly remediate the affected area to regulatory standards.

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

Signature:

Printed Name: Jamon Hohensee

Title: Environmental Representative

E-mail Address: jamon_hohensee@eogresources.com

Date: 7/6/2017 Phone: 432-556-8074

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 7/10/2017 Expiration Date:

Conditions of Approval: see attached directive

Attached ☑

* Attach Additional Sheets If Necessary

1RP-4747 nOY1719139935 pOY1719140491

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **EOG Resources**	Contact **Jamon Hoensee**
Address **5509 Champions Drive, Midland, Texas 79706**	Telephone No. **(432) 556-8074**
Facility Name Osprey 10 601H	Facility Type **Well**

Surface Owner: Fee Land	Mineral Owner: Federal	API: 3002541816

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	9	25S	34E					Lea

Latitude N 32.1387° **Longitude** W -103.4666°

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 50 bbls	Volume Recovered 40 bbls
Source of Release: Relief Valve	Date and Hour of Occurrence 7/2/17, 7:14pm	Date and Hour of Discovery 7/2/17, 7:14pm
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

APPROVED
By Olivia Yu at 12:25 pm, Oct 02, 2018

Describe Cause of Problem and Remedial Action Taken.*

Spray was noticed when coming from relief valve on location. Production foreman and lease operator were informed. The well was shut in to relieve the pressure. 500bbls of fluid was released and 40bbls recovered. Overspray was formed off the pad, standing fluids were recovered and disposed of properly.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. The soil didn't exceed RRAL and Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez (agent for EOG)	Approved by
Title: Project Manager	Approval Date: 10/2/2018 Expiration Date: xx/xx/xxxx
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval: BLM approval required. Attached ☐
Date: 9/29/17 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

1RP-4747

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
EOG- Osprey 10 601H
Lea County, New Mexico

24 South 33 East

6	5	4	3	2	1
7	8	9	10 **24.6**	11	12
18	17	16	15	14	13
19	20	21	22	23 **208**	24 **16.9**
30	29	28	27	26	25
31	32	33 **93.2**	34	35	36

24 South 34 East

6	5	4	3	2	1
7	8	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

24 South 35 East

6	5	4	3	2	1
7	8	9	10 **300**	11	12
18	17	16	15	14	13
19	20 **97**	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 33 East

6	5	4	3 172	2	1
7	8	9	10	11 140	12 200
18	17	16	15	14	13
19	20 **200**	21 120	22	23	24
30	29	28	27 125	26	25
31 **257**	32	33	34	35	36

25 South 34 East

6	5	4	3	2 300	1 260
7	8	9	10	11	12
18	17	16	15 135	14	13
19	20	21	22	23	24 300
30	29 50	28	27	26	25
31	32	33	34	35	36

25 South 35 East

6	5 **165**	4	3 **108**	2	1
7	8	9	10	11	12
18 **230**	17	16	15	14	13
19	20	21 **218**	22	23	24
30 **80**	29	28	27	26	25
31	32	33	34	35	36

26 South 33 East

6	5	4	3 **175**	2	1
7	8	9	10	11 **145**	12 **200**
18	17	16	15	14 **135**	13
19	20	21 **120**	22	23	24
30	29		27 **125**	26	25
31	32	33	34	35	36

26 South 34 East

6	5	4	3	2	1
7	8	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

26 South 35 East

6	5	4	3	2	1
7	8	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

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 Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02299	CUB	LE	4	4	2	24	25S	34E	649417	3554478*	350	300	50
C 02314		LE	2	4	2	15	25S	34E	646170	3556243*	175	135	40
C 02315		LE	2	4	2	15	25S	34E	646170	3556243*	175	135	40
C 02316		LE	3	4	3	29	25S	34E	642003	3551967*	100	50	50
C 02317		LE	3	4	3	29	25S	34E	642003	3551967*	100	50	50
C 02401		LE	2	2	1	01	25S	34E	648534	3559896*	275	260	15

Average Depth to Water: **155 feet**

Minimum Depth: **50 feet**

Maximum Depth: **300 feet**

Record Count: 6

Basin/County Search:

County: Lea

PLSS Search:

Township: 25S **Range:** 34E

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

Appendix C

Analytical Report 558952

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

EOG-Osprey 10 601H

212C-MD-00921

07-AUG-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

07-AUG-17

Project Manager: **Ike Tavarez**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **558952**
EOG-Osprey 10 601H
Project Address: Lea County NM

Ike Tavarez:

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) 558952. 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. 558952 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 558952

Tetra Tech- Midland, Midland, TX

EOG-Osprey 10 601H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH #1 (0-1')	S	07-31-17 00:00		558952-001
AH #1 (1-1.5')	S	07-31-17 00:00		558952-002
AH #1 (2-2.5')	S	07-31-17 00:00		558952-003
AH #1 (4-4.5')	S	07-31-17 00:00		558952-004
AH #1 (5-5.5')	S	07-31-17 00:00		558952-005
AH #2 (0-1')	S	07-31-17 00:00		558952-006
AH #2 (1-1.5')	S	07-31-17 00:00		558952-007
AH #2 (2-2.5')	S	07-31-17 00:00		558952-008
AH #3 (0-1')	S	07-31-17 00:00		558952-009
AH #3 (1-1.5')	S	07-31-17 00:00		558952-010
AH #3 (2-2.5')	S	07-31-17 00:00		558952-011
AH #3 (4-4.5')	S	07-31-17 00:00		558952-012
AH #3 (5.5-6')	S	07-31-17 00:00		558952-013
AH #4 (0-1')	S	07-31-17 00:00		558952-014
AH #4 (1-1.5')	S	07-31-17 00:00		558952-015
AH #4 (2-2.5')	S	07-31-17 00:00		558952-016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3023756 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 558952

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Osprey 10 601H

Project Id: 212C-MD-00921
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Tue Aug-01-17 02:01 pm
Report Date: 07-AUG-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	558952-001		558952-002		558952-003		558952-004		558952-005		558952-006	
	Field Id:	AH #1 (0-1')		AH #1 (1-1.5')		AH #1 (2-2.5')		AH #1 (4-4.5')		AH #1 (5-5.5')		AH #2 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Aug-01-17 14:30								Aug-01-17 14:30		Aug-01-17 14:30	
	Analyzed:	Aug-01-17 15:41								Aug-01-17 17:14		Aug-01-17 17:33	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202							<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00202	0.00202							<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00202	0.00202							<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00403	0.00403							<0.00401	0.00401	<0.00398	0.00398
o-Xylene		<0.00202	0.00202							<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00202	0.00202							<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00202	0.00202							<0.00200	0.00200	<0.00199	0.00199
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15	
	Analyzed:	Aug-02-17 18:02		Aug-02-17 18:25		Aug-02-17 18:33		Aug-02-17 18:41		Aug-02-17 18:48		Aug-02-17 19:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.98	4.98	<4.99	4.99	13.1	4.94	<4.99	4.99	<4.97	4.97	<4.93	4.93
TPH By SW8015 Mod	***Extracted:***	Aug-03-17 10:00								Aug-03-17 10:00		Aug-03-17 10:00	
	Analyzed:	Aug-03-17 13:51								Aug-03-17 14:12		Aug-03-17 15:13	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		514	15.0							16.2	15.0	42.1	15.0
Oil Range Hydrocarbons (ORO)		113	15.0							<15.0	15.0	<15.0	15.0
Total TPH		627	15.0							16.2	15.0	42.1	15.0

Certificate of Analysis Summary 558952

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Osprey 10 601H

Project Id: 212C-MD-00921
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Tue Aug-01-17 02:01 pm
Report Date: 07-AUG-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	558952-007		558952-008		558952-009		558952-010		558952-011		558952-012	
	Field Id:	AH #2 (1-1.5')		AH #2 (2-2.5')		AH #3 (0-1')		AH #3 (1-1.5')		AH #3 (2-2.5')		AH #3 (4-4.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00	
BTEX by EPA 8021B	***Extracted:***			Aug-01-17 14:30		Aug-01-17 14:30							
	Analyzed:			Aug-01-17 17:52		Aug-01-17 18:10							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Benzene				<0.00200	0.00200	<0.00201	0.00201						
Toluene				<0.00200	0.00200	<0.00201	0.00201						
Ethylbenzene				<0.00200	0.00200	<0.00201	0.00201						
m,p-Xylenes				<0.00399	0.00399	<0.00402	0.00402						
o-Xylene				<0.00200	0.00200	<0.00201	0.00201						
Total Xylenes				<0.00200	0.00200	<0.00201	0.00201						
Total BTEX				<0.00200	0.00200	<0.00201	0.00201						
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15	
	Analyzed:	Aug-02-17 19:19		Aug-02-17 19:27		Aug-02-17 19:34		Aug-02-17 19:42		Aug-02-17 19:50		Aug-02-17 20:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.94	4.94	<4.94	4.94	<4.93	4.93	<4.94	4.94	<4.96	4.96	<4.96	4.96
TPH By SW8015 Mod	***Extracted:***			Aug-03-17 10:00		Aug-03-17 10:00							
	Analyzed:			Aug-03-17 15:33		Aug-03-17 15:53							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)				<15.0	15.0	<15.0	15.0						
Diesel Range Organics (DRO)				<15.0	15.0	59.2	15.0						
Oil Range Hydrocarbons (ORO)				<15.0	15.0	<15.0	15.0						
Total TPH				<15.0	15.0	59.2	15.0						

Certificate of Analysis Summary 558952

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Osprey 10 601H

Project Id: 212C-MD-00921
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Tue Aug-01-17 02:01 pm
Report Date: 07-AUG-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	558952-013		558952-014		558952-015		558952-016					
	Field Id:	AH #3 (5.5-6')		AH #4 (0-1')		AH #4 (1-1.5')		AH #4 (2-2.5')					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00		Jul-31-17 00:00					
BTEX by EPA 8021B	***Extracted:***	Aug-01-17 14:30		Aug-01-17 14:30				Aug-01-17 14:30					
	Analyzed:	Aug-01-17 18:29		Aug-01-17 18:48				Aug-02-17 07:56					
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00201	0.00201			<0.00341	0.00341				
Toluene		<0.00199	0.00199	<0.00201	0.00201			<0.00341	0.00341				
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201			<0.00341	0.00341				
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402			<0.00683	0.00683				
o-Xylene		<0.00199	0.00199	<0.00201	0.00201			<0.00341	0.00341				
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201			<0.00341	0.00341				
Total BTEX		<0.00199	0.00199	<0.00201	0.00201			<0.00341	0.00341				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15		Aug-02-17 12:15					
	Analyzed:	Aug-02-17 20:21		Aug-02-17 20:44		Aug-02-17 20:51		Aug-02-17 20:59					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		<4.97	4.97	<4.93	4.93	<4.99	4.99	<4.93	4.93				
TPH By SW8015 Mod	***Extracted:***	Aug-03-17 10:00		Aug-03-17 10:00				Aug-03-17 10:00					
	Analyzed:	Aug-03-17 16:13		Aug-03-17 16:33				Aug-03-17 16:53					
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0			<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	29.8	15.0			<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0			<15.0	15.0				
Total TPH		<15.0	15.0	29.8	15.0			<15.0	15.0				

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: EOG-Osprey 10 601H

Work Orders : 558952,

Project ID: 212C-MD-00921

Lab Batch #: 3023756 **Sample:** 558952-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 15:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0351	0.0300	117	80-120	

Lab Batch #: 3023756 **Sample:** 558952-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 17:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 3023756 **Sample:** 558952-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 17:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	80-120	
4-Bromofluorobenzene	0.0262	0.0300	87	80-120	

Lab Batch #: 3023756 **Sample:** 558952-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 17:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 3023756 **Sample:** 558952-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 18:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EOG-Osprey 10 601H

Work Orders : 558952,

Project ID: 212C-MD-00921

Lab Batch #: 3023756 **Sample:** 558952-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 18:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 3023756 **Sample:** 558952-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 18:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	80-120	

Lab Batch #: 3023756 **Sample:** 558952-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/02/17 07:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 3024053 **Sample:** 558952-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 13:51

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.8	123	70-135	
o-Terphenyl	51.2	49.9	103	70-135	

Lab Batch #: 3024053 **Sample:** 558952-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 14:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.9	129	70-135	
o-Terphenyl	48.0	50.0	96	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EOG-Osprey 10 601H

Work Orders : 558952,

Project ID: 212C-MD-00921

Lab Batch #: 3024053 **Sample:** 558952-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 15:13

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	99.9	125	70-135	
o-Terphenyl	46.0	50.0	92	70-135	

Lab Batch #: 3024053 **Sample:** 558952-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 15:33

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	100	128	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 3024053 **Sample:** 558952-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.8	128	70-135	
o-Terphenyl	46.2	49.9	93	70-135	

Lab Batch #: 3024053 **Sample:** 558952-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 16:13

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.8	123	70-135	
o-Terphenyl	44.7	49.9	90	70-135	

Lab Batch #: 3024053 **Sample:** 558952-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 16:33

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	99.7	125	70-135	
o-Terphenyl	44.1	49.9	88	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EOG-Osprey 10 601H

Work Orders : 558952,

Project ID: 212C-MD-00921

Lab Batch #: 3024053 **Sample:** 558952-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 16:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.8	123	70-135	
o-Terphenyl	43.3	49.9	87	70-135	

Lab Batch #: 3023756 **Sample:** 728595-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/01/17 10:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 3024053 **Sample:** 728721-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/03/17 12:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	100	132	70-135	
o-Terphenyl	48.3	50.0	97	70-135	

Lab Batch #: 3023756 **Sample:** 728595-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/01/17 09:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 3024053 **Sample:** 728721-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/03/17 13:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EOG-Osprey 10 601H

Work Orders : 558952,

Project ID: 212C-MD-00921

Lab Batch #: 3023756 **Sample:** 728595-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/01/17 09:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 3024053 **Sample:** 728721-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/03/17 13:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 3023756 **Sample:** 558842-013 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 09:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0347	0.0300	116	80-120	

Lab Batch #: 3024053 **Sample:** 558952-005 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 14:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	45.5	50.0	91	70-135	

Lab Batch #: 3023756 **Sample:** 558842-013 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/17 10:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0355	0.0300	118	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: EOG-Osprey 10 601H

Work Orders : 558952,

Project ID: 212C-MD-00921

Lab Batch #: 3024053 **Sample:** 558952-005 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/03/17 14:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	46.6	49.9	93	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: EOG-Osprey 10 601H

Work Order #: 558952 **Project ID:** 212C-MD-00921

Analyst: ALJ **Date Prepared:** 08/01/2017 **Date Analyzed:** 08/01/2017

Lab Batch ID: 3023756 **Sample:** 728595-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00202	0.101	0.101	100	0.101	0.0974	96	4	70-130	35	
Toluene	<0.00202	0.101	0.102	101	0.101	0.0992	98	3	70-130	35	
Ethylbenzene	<0.00202	0.101	0.105	104	0.101	0.103	102	2	71-129	35	
m,p-Xylenes	<0.00404	0.202	0.203	100	0.202	0.199	99	2	70-135	35	
o-Xylene	<0.00202	0.101	0.104	103	0.101	0.102	101	2	71-133	35	

Analyst: MGO **Date Prepared:** 08/02/2017 **Date Analyzed:** 08/02/2017

Lab Batch ID: 3023919 **Sample:** 728616-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	248	99	250	247	99	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

BS / BSD Recoveries

Project Name: EOG-Osprey 10 601H

Work Order #: 558952 **Project ID:** 212C-MD-00921

Analyst: ARM **Date Prepared:** 08/03/2017 **Date Analyzed:** 08/03/2017

Lab Batch ID: 3024053 **Sample:** 728721-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1010	101	1000	979	98	3	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1060	106	1000	1040	104	2	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: EOG-Osprey 10 601H

Work Order # : 558952 **Project ID:** 212C-MD-00921

Lab Batch ID: 3023756 **QC- Sample ID:** 558842-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/01/2017 **Date Prepared:** 08/01/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00202	0.101	0.0822	81	0.100	0.0788	79	4	70-130	35	
Toluene	<0.00202	0.101	0.0828	82	0.100	0.0795	80	4	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0857	85	0.100	0.0790	79	8	71-129	35	
m,p-Xylenes	<0.00403	0.202	0.166	82	0.200	0.152	76	9	70-135	35	
o-Xylene	<0.00202	0.101	0.0852	84	0.100	0.0788	79	8	71-133	35	

Lab Batch ID: 3023919 **QC- Sample ID:** 558952-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/02/2017 **Date Prepared:** 08/02/2017 **Analyst:** MGO

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.98	249	271	109	249	271	109	0	90-110	20	

Lab Batch ID: 3023919 **QC- Sample ID:** 558952-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/02/2017 **Date Prepared:** 08/02/2017 **Analyst:** MGO

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.96	248	260	105	248	264	106	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: EOG-Osprey 10 601H

Work Order # : 558952 **Project ID:** 212C-MD-00921

Lab Batch ID: 3024053 **QC- Sample ID:** 558952-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/03/2017 **Date Prepared:** 08/03/2017 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	968	97	997	975	98	1	70-135	35	
Diesel Range Organics (DRO)	16.2	999	1060	104	997	1080	107	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

5598952

Client Name: EOG	Site Manager: Ike Tavarez
Project Name: Osprey 10 601H	
Project Location: (county, state) Lea County, New Mexico	Project #: Pending
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature: Mike Lima
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None		# CONTAINERS	FILTERED (Y/N)
	AH #1 (0-1')	7/31/2017			X				X			1	N
	AH#1 (1-1.5')	7/31/2017			X				X			1	N
	AH #1 (2-2.5')	7/31/2017			X				X			1	N
	AH #1 (4-4.5')	7/31/2017			X				X			1	N
	AH #1 (5-5.5')	7/31/2017			X				X			1	N
	AH #2 (0-1')	7/31/2017			X				X			1	N
	AH #2 (1-1.5')	7/31/2017			X				X			1	N
	AH #2 (2-2.5')	7/31/2017			X				X			1	N
	AH #3 (0-1')	7/31/2017			X				X			1	N
	AH #3 (1-1.5')	7/31/2017			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Date: 8-1-17 Time: 14:01
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Temp: 0.9 IR ID:R-8
ORIGIN CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 0.7

LAB USE ONLY

Sample Temperature

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 #:

Final 1.000

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

558952

Client Name: EOG	Site Manager: Ike Tavarez
Project Name: Osprey 10 601H	
Project Location: (county, state) Lea County, New Mexico	Project #: Pending
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	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
	AH#3 (2-2.5')	7/31/2017			X				X			1	N																X								
	AH#3 (4-4.5')	7/31/2017			X				X			1	N																X								
	AH#3 (5.5-6')	7/31/2017			X				X			1	N	X		X													X								
	AH#4 (0-1')	7/31/2017			X				X			1	N	X		X													X								
	AH#4 (1-1.5')	7/31/2017			X				X			1	N																X								
	AH#4 (2-2.5')	7/31/2017			X				X			1	N	X		X													X								

Relinquished by: Date: 8-1-17 Time: 14:01
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Temp: 0.9
ORIGI CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 0.7
IR ID:R-8

LAB USE ONLY

Sample Temperature

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 #:

Final 1.000

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 08/01/2017 02:01:00 PM

Work Order #: 558952

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)?	.7
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 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: Jessica Kramer Date: 08/01/2017
Jessica Kramer

Checklist reviewed by: Kelsey Brooks Date: 08/02/2017
Kelsey Brooks

Appendix D