



Wendy S. Acosta Quintero
Environmental Specialist
Phone: (432) 688-9162
Cell: (432) 234-8050
Email: wendy.acostaquintero@cop.com

ConocoPhillips Company
3300 North A Street
Building 3-278 E/F
Midland, TX 79705-5421

November 5, 2015

Heather Patterson
New Mexico Oil Conservation Division

Re: ConocoPhillips Company
Stampede Federal 34-1H
Closure Report

Enclosed, please find the analytical data and summary of remediation actions for the release at the Stampede Federal 34-1H that occurred on July 22, 2015. If you have any questions or require additional information, please contact me at (432) 688-9162.

Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Wendy Acosta Q.".

Wendy S. Acosta Quintero
Environmental Specialist

SITE INFORMATION

Report Type: Closure Report (2RP-3236)

General Site Information:

Site:	Stampede Federal 34-1H						
Company:	ConocoPhillips						
Section, Township and Range	Sec 34	T 26S	R 31E				
Lease Number:	API No. 30-015-42123						
County:	Eddy County						
GPS:	32.00572° N			103.77346° W			
Surface Owner:	Federal						
Mineral Owner:							
Directions:	From the intersection of US-285 and Longhorn Rd in Rural Eddy county, travel east on Longhorn Rd for 4.2 miles, turn east onto Pipeline Rd for 6.9 miles, turn south on lease road for 6.0 miles, turn east onto lease road for 6.0 miles to facility on south side of the road.						

Release Data:

Date Released:	7/22/2015
Type Release:	Produced water and oil
Source of Contamination:	Separator Failure
Fluid Released:	11 bbls (9 bbls produced water/2 bbls oil)
Fluids Recovered:	6 bbls

Official Communication:

Name:	Wendy Acosta Quintero	Ike Tavaréz
Company:	ConocoPhillips Co.	Tetra Tech
Address:	3300 North A Street	4000 N. Big Spring
		Ste 401
City:	Midland Texas, 79707	Midland, Texas
Phone number:	(432) 688-9162	(432) 687-8110
Fax:		
Email:	wendy.acostaquintero@cop.com	Ike.Tavaréz@tetratech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	
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

November 3, 2015

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the ConocoPhillips location Stampede Federal 34-1H, Section 34, Township 26 South, Range 31 East, Eddy County, New Mexico. 2RP-3236

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a spill from the Stampede Federal 34-1H, Section 34, Township 26 South, Range 31 East, Eddy County, New Mexico. (Site). The spill site coordinates are 32.00572° N, 103.77346° W. 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 22, 2015, and released approximately 11 barrels of fluid (9 bbls of produced water and 2 bbls of oil) from a separator failure. Approximately 6 barrels of fluids were recovered. The spill initiated on the pad impacting an area of approximately 45' x 50' and 35' x 45'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 34. According to the NMOCD groundwater map, the average depth to groundwater in this area is between 150' and 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 (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as

Tetra Tech

4000 North Big Spring, Ste 401 Midland, TX 79705

Tel 432.682.4559 **Fax** 432.682.3946 www.tetrattech.com



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 August 5, 2015 Tetra Tech personnel installed three (3) auger holes (AH-1, AH-2, and AH-3) as well as one background sample (BG-1) using a stainless steel hand auger to assess the soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of the laboratory analysis chain-of-custody documentation are included in Appendix C. The auger hole results are summarized in Table 1 and shown on Figure 3.

Referring to Table 1, the areas of auger holes (AH-1 and AH-3) did not exceed the RRAL's for TPH, however the area of auger hole (AH-2) showed an elevated TPH concentration of 10,263 mg/kg at 0'-1' below surface. Deeper samples were not collected in the area of auger hole (AH-2) due to a dense formation and the TPH impact was not vertically defined. None of the samples exceeded the RRAL for BTEX. The auger hole samples (AH-1, AH-2, and AH-3) showed minimal chloride impact with concentration highs of 307 mg/kg at 1'-1.5', 376 mg/kg at 0'-1', and <50.0 mg/kg at 0'-1' below surface, respectively. The background sample (BG-1) showed a chloride concentration of <20.0 mg/kg at 0'-1' below surface.

Remedial Activities

ConocoPhillips removed the impacted material as highlighted (green) on Table 1 and shown on Figure 4. The area of auger hole (AH-2) was excavated to 1.0' below surface and the area measured approximately 35' x 40'. Tetra Tech was onsite on October 12, 2015 to collect a confirmation sample (CS-1) in the open excavation area of auger hole (AH-2) to confirm all impacted material was removed and to vertically delineate the TPH impact in that area. The confirmation sample (CS-1) was analyzed for TPH by EPA method 8015 modified. Copies of the laboratory analysis chain-of-custody documentation are included in Appendix C. The confirmation sample results are summarized in Table1 and shown on Figure 4.

Referring to Table1, the confirmation sample (CS-1) collected at 0'-1' below the excavation bottom showed a total TPH concentration below regulatory limits of <14.9 mg/kg.



TETRA TECH

Based on the results, the excavation was then backfilled with clean soil to grade. All of the excavated material was hauled to R360 for proper disposal.

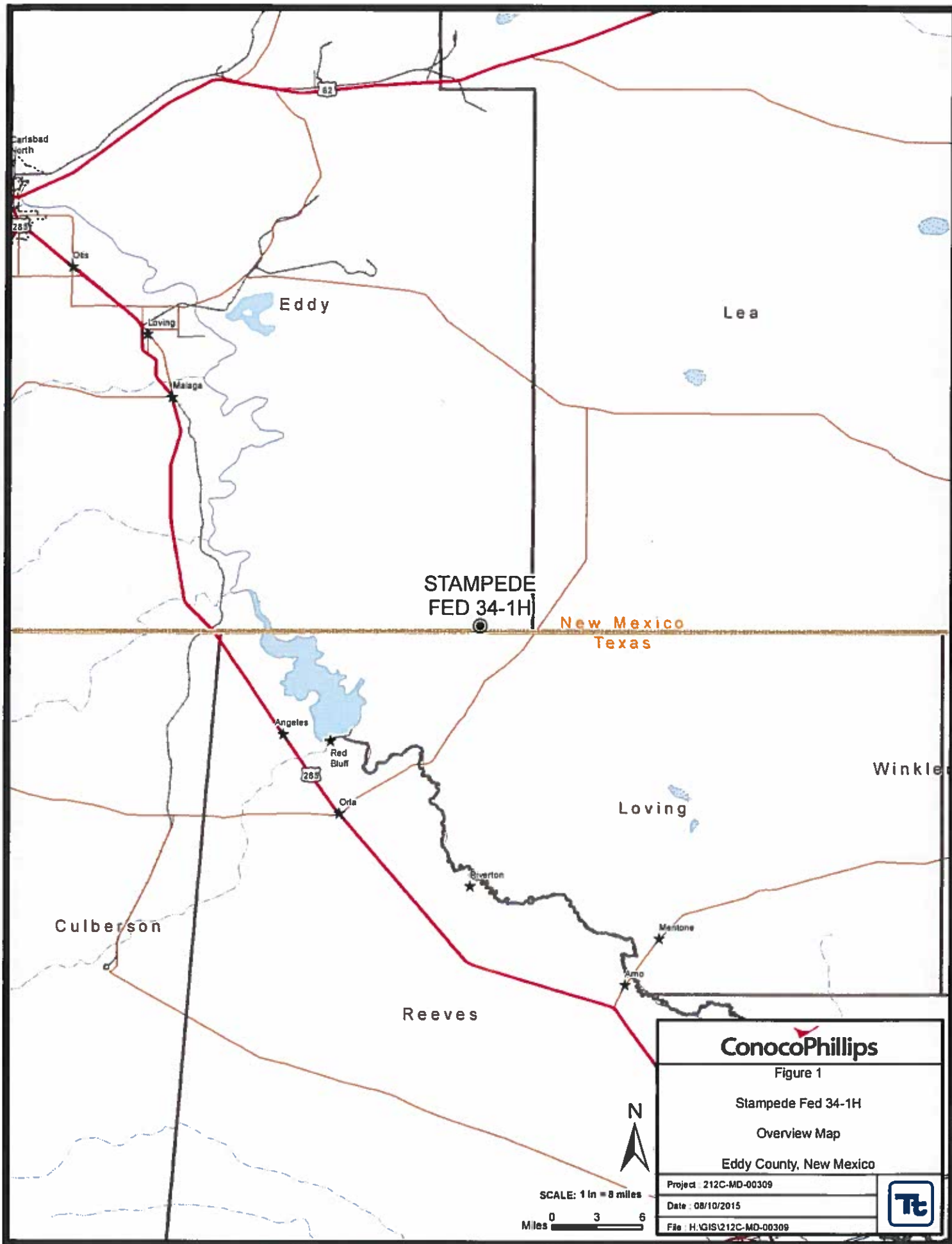
Conclusion

Based on the assessment and remedial activities, ConocoPhillips requests closure of the site. The Final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Clair Gonzales,
Geologist III

Figures



ConocoPhillips

Figure 1

Stampede Fed 34-1H

Overview Map

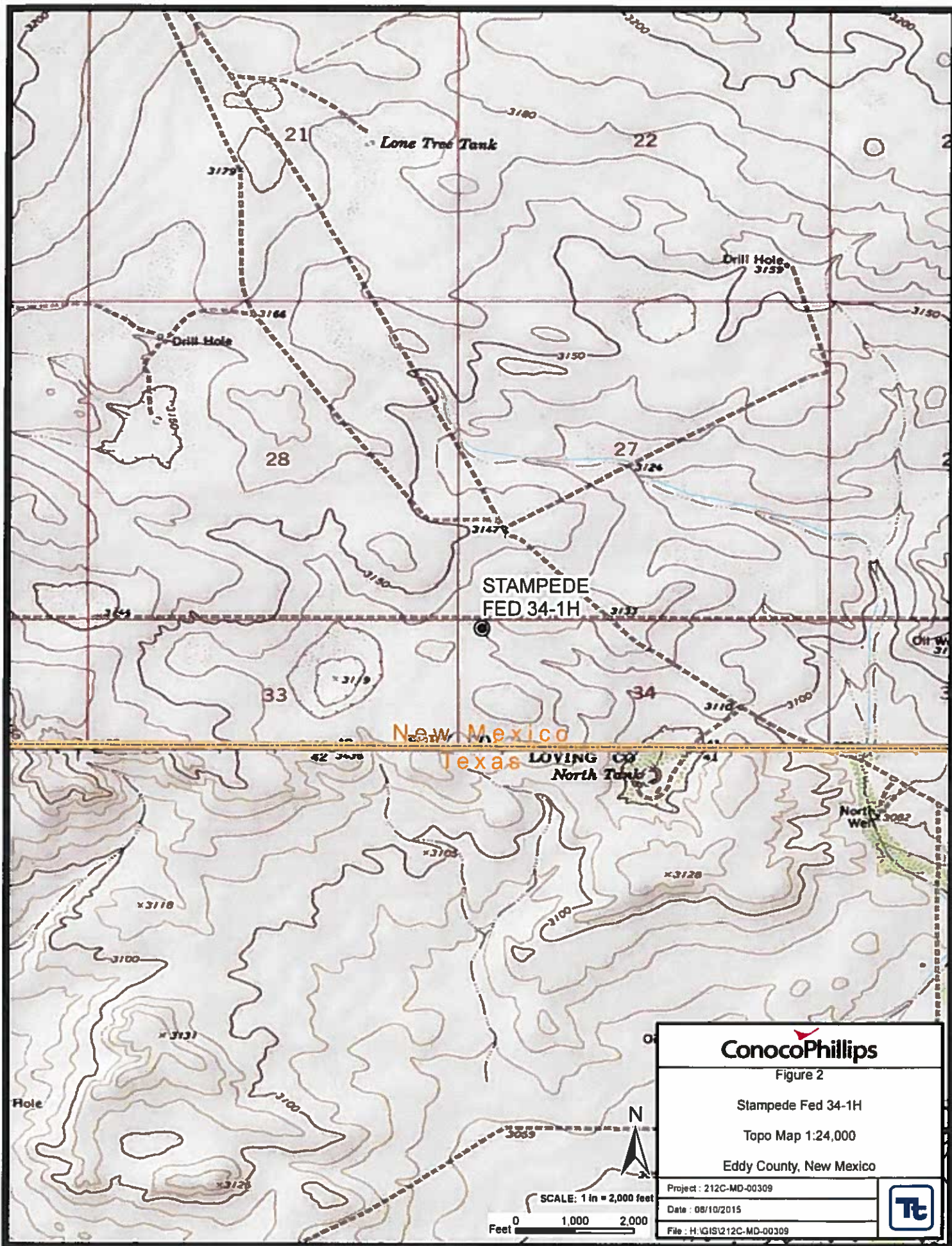
Eddy County, New Mexico

Project 212C-MD-00309

Date 08/10/2015

File H:\GIS\212C-MD-00309





ConocoPhillips

Figure 2

Stampede Fed 34-1H

Topo Map 1:24,000

Eddy County, New Mexico

Project: 212C-MD-00309

Date: 08/10/2015

File: H:\GIS\212C-MD-00309

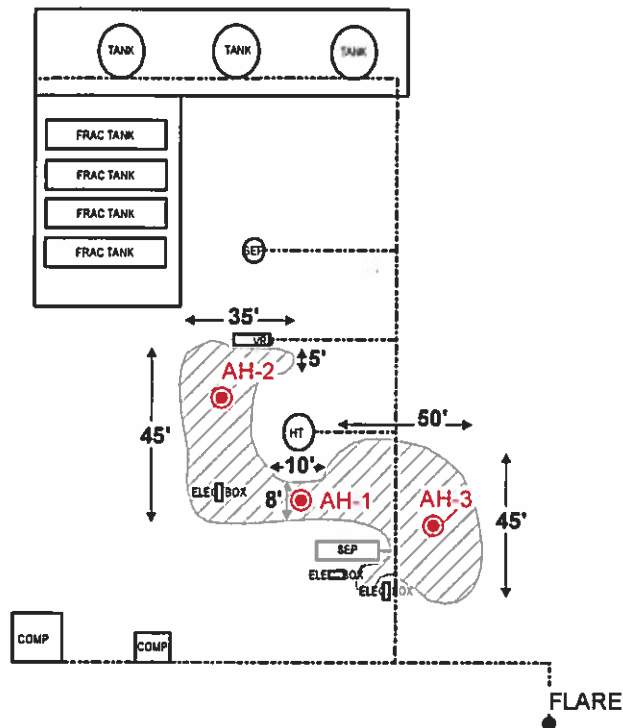


PASTURE

LEASE ROAD

PAD

PASTURE



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- ▨ SPILL AREA

PASTURE



SCALE: 1 IN = 60 FEET

Feet 0 30 60

ConocoPhillips

Figure 3

Stampede Fed 34-1H

Spill Assessment Map

Eddy County, New Mexico

Project: 212C-MD-00309

Date: 08/10/2015

File: H1GIS\212C-MD-00309

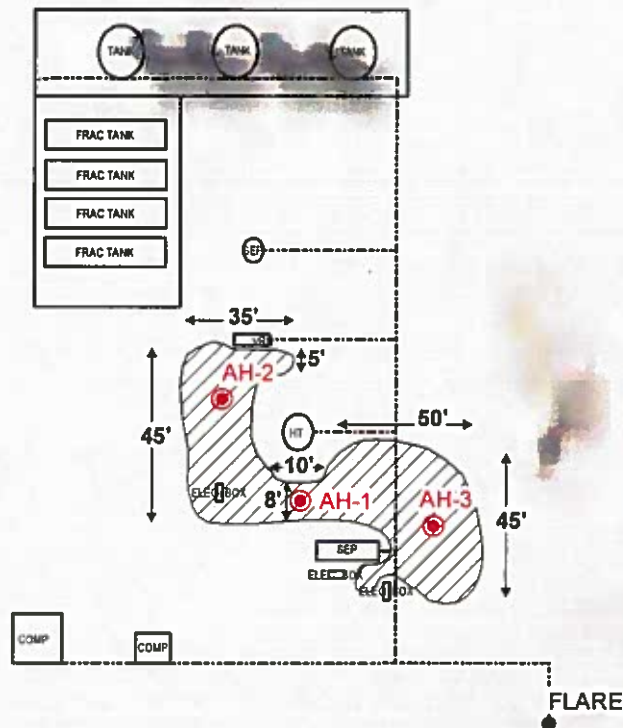


PASTURE

LEASE ROAD

PAD

PASTURE



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- ▨ SPILL AREA

PASTURE



SCALE: 1 IN = 60 FEET

Feet 0 30 60

ConocoPhillips

Figure 3a

Stampede Fed 34-1H

Spill Assessment Map w/ Aerial

Eddy County, New Mexico

Project 212C-MD-00309

Date 08/10/2015

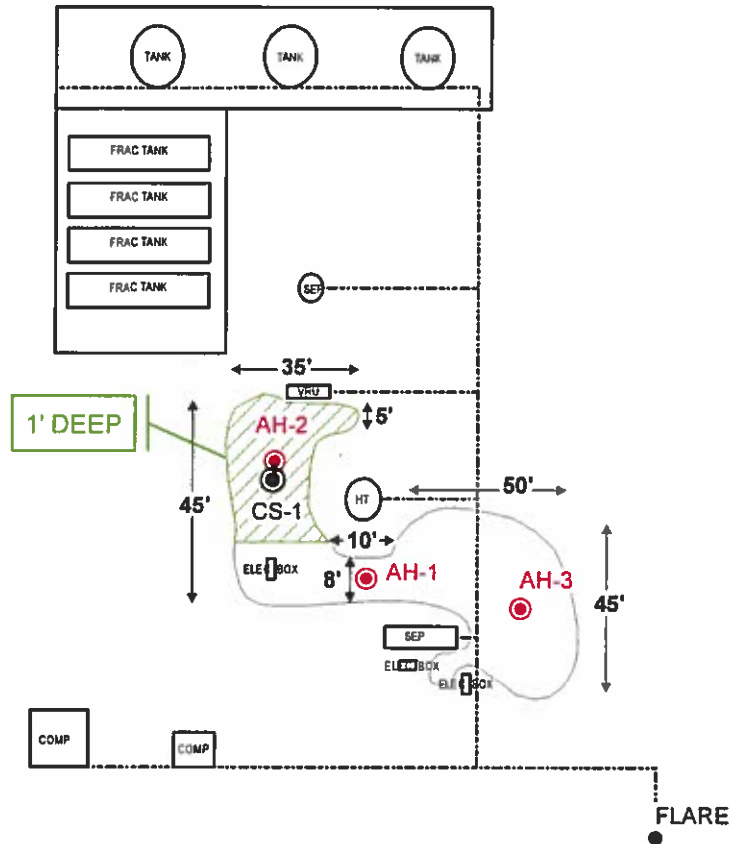
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LEASE ROAD

PAD

PASTURE



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- ⊙ CONFIRMATION SAMPLE LOCATION
- ▨ EXCAVATED AREA

PASTURE



SCALE: 1 IN = 52 FEET

Feet 0 30 60

ConocoPhillips

Figure 4

Stampede Fed 34-1H

Excavation Area & Depth Map

Eddy County, New Mexico

Project: 212C-MD-00309

Date: 08/10/2015

File: H:\GIS\212C-MD-00309



Tables

Table 1
ConocoPhillips
Stampede Federal 34-1H
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	8/5/2015	0-1	0	X		<4.00	265	265	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	228
	"	1-1.5	0	X	-	-	-	-	-	-	-	-	-	307
AH-2	8/5/2015	0-1	0		X	63.4	10,200	10,263	<0.100	<0.100	<0.100	<0.100	<0.100	376
CS-1	10/12/2015	0-1	1	X		<14.9	<14.9	<14.9	-	-	-	-	-	-
AH-3	8/5/2015	0-1	0	X		<4.00	89.7	89.7	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0
BG-1	8/7/2015	0-1	0	X		-	-	-	-	-	-	-	-	<20.0

(-) Not Analyzed

(BEB) Below Excavation Bottom
 Excavation Depth / Soil Removed
 BG Background Sample
 CS Confirmation Sample

Photos

ConocoPhillips Co.
Stampede Federal 34-1H
Eddy County, New Mexico



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View West – Area of AH-1



View Northeast – Area of AH-2

ConocoPhillips Co.
Stampede Federal 34-1H
Eddy County, New Mexico



TETRA TECH



View Southwest – Area of AH-3

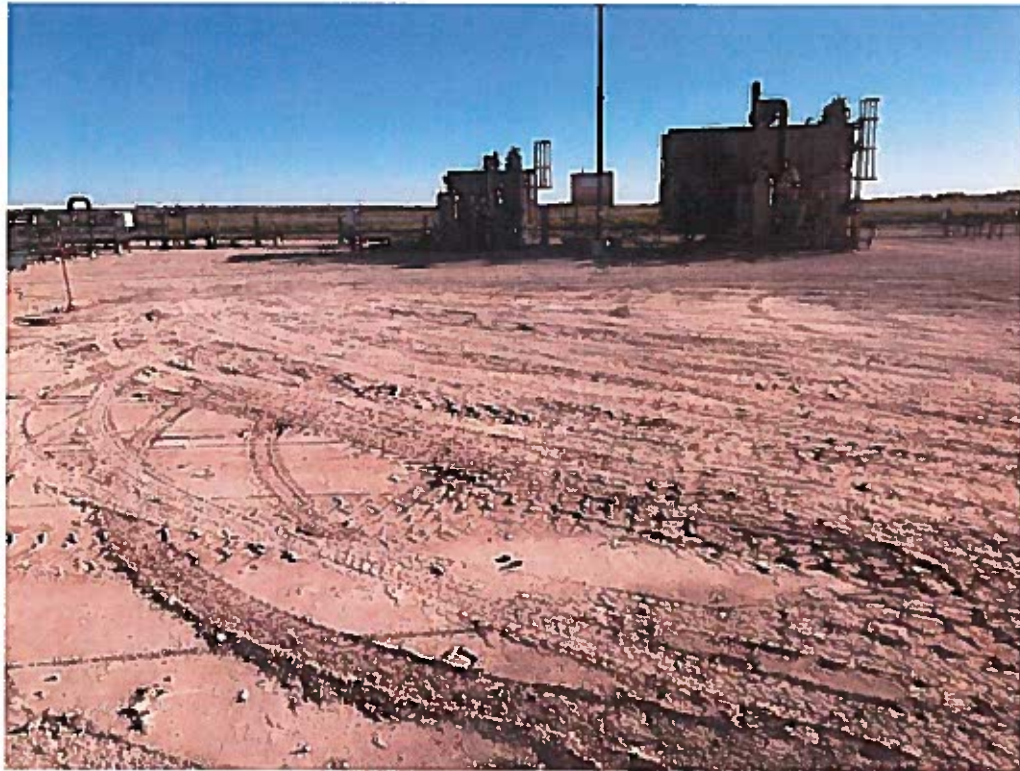


View North – Excavated area of AH-2

ConocoPhillips Co.
Stampede Federal 34-1H
Eddy County, New Mexico



TETRA TECH



View South – Backfilled area of AH-2

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 August 8, 2011

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

Release Notification and Corrective Action

NAB1524653994

OPERATOR		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company	ConocoPhillips	Contact	Wendy Acosta Quintero
Address	3300 North A Street, Midland, TX 79707	Telephone No.	432-688-9162
Facility Name	Stampede Federal 34-1H	Facility Type	Production Facility

Surface Owner	Mineral Owner	API No.	30-015-42123
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	34	26S	31E					Eddy

32.001006

Latitude 32° 00' 03"

Longitude -103° 46' 24"

103.773846

NATURE OF RELEASE

Type of Release	oil/Produced water	Volume of Release	11 bbl	Volume Recovered	6 bbl
Source of Release	Separator	Date and Hour of Occurrence		Date and Hour of Discovery	07/22 1630
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	NMOCD - Tomas Overding, BLM - Jim Amis		
By Whom?	Wendy Acosta Quintero	Date and Hour	07/23/2014 10 AM		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	NM OIL CONSERVATION		

ARTESIA DISTRICT
SEP 02 2015

RECEIVED

If a Watercourse was Impacted, Describe Fully.*

NA

Describe Cause of Problem and Remedial Action Taken.*

At approximately 4:00 PM, separator pressure was adjusted, which caused the flare at the battery to go out. When a cloud of gas coming from one of the separator lines was noticed, well was shut in.

Describe Area Affected and Cleanup Action Taken.*

After deeming safe conditions, lines were checked to identify leak source and a hole approximately 1 1/2 inches in diameter on the underside of the pipe from the water leg was noticed. It made a hole on the ground about two feet in diameter and 1 1/2 feet deep and spilled approximately 11 bbls (9 bbl produced water and 2 bbl oil).

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.

OIL CONSERVATION DIVISION

Signature:	Approved by Environmental Specialist:	
Printed Name: Wendy Acosta Quintero	Approval Date: 9/3/15	
Title: Graduate Environmental Specialist	Expiration Date: N/A	Conditions of Approval:
E-mail Address: wendy.acostaquinero@cop.com	Remediation per O.C.D. Rules & Guidelines checked <input type="checkbox"/>	
Date: 7/23/2015	Phone: 432-688-9162	SUBMIT REMEDIATION PROPOSAL NO

LATER THAN: 10/4/15

2RP-3236

* Attach Additional Sheets If Necessary

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 ConocoPhillips	Contact Wendy Acosta Quintero
Address 3300 North A Street, Midland, TX 79707	Telephone No. (432) 688-9162
Facility Name Stampede Federal 34-1H	Facility Type Production Facility

Surface Owner: Federal	Mineral Owner	API: 30-015-42123
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LOCATION OF RELEASE

Unit Letter	Section 34	Township 26S	Range 31E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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Latitude N 32.00572° Longitude W 103.77349°

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release 11 bbls	Volume Recovered 6 bbls
Source of Release: Separator	Date and Hour of Occurrence 07/22/2015	Date and Hour of Discovery 07/22/2015 16:30
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD - Thomas Oberding; BLM - Jim Amos	
By Whom? Wendy Acosta Quintero	Date and Hour 07/23/2015 10am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

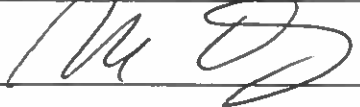
Describe Cause of Problem and Remedial Action Taken.*

At approximately 4:00 PM, separator pressure was adjusted, which caused the flare at the battery to go out. When a cloud of gas coming from one of the separator lines was noticed, well was shut in. After deeming safe conditions, lines were checked to identify leak source and a hole approximately 1 1/2 inches in diameter on the underside of the pipe from the water leg was noticed. It made a hole on the ground about two feet in diameter and 1 1/2 feet deep and spilled approximately 11 bbls (9 bbl produced water and 2 bbl oil).

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to assess & define the spill extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Based on the results, 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 ConocoPhillips)	Approved by District Supervisor:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 11-5-15 Phone: (432) 682-4559			

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
ConocoPhillips - Stampede Federal 34-1H
Eddy County, New Mexico

25 South 30 East

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

25 South 31 East

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

25 South 32 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 30 East

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

26 South 31 East

6	5	4	3	2	1	335
7	8	295	9	10	11	287
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 32 East

6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	333	22	23	24
30	29	28	180	27	26	25
31	32	33	34	35	36	

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

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

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

Appendix C

Summary Report

Ike Tavaréz
Tetra Tech
1901 N. Big Spring St.
Midland, TX 79705

Report Date: August 14, 2015

Work Order: 15080656



Project Location: Eddy Co, NM
Project Name: Conoco Phillips-Stampede Fed. 34-1H
Project Number: 212C-MD-00309

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
401356	AH-1 0-1	soil	2015-08-05	00:00	2015-08-06
401357	AH-1 1-1.5	soil	2015-08-05	00:00	2015-08-06
401358	AH-2 0-1	soil	2015-08-05	00:00	2015-08-06
401359	AH-3 0-1	soil	2015-08-05	00:00	2015-08-06

Sample - Field Code	BTEX				TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
401356 - AH-1 0-1	<0.0200 ¹	<0.0200 Qr	<0.0200	<0.0200	265 B	<4.00
401358 - AH-2 0-1	<0.100	<0.100 Qr	<0.100	<0.100	10200 B	63.4
401359 - AH-3 0-1	<0.0200 ²	<0.0200 Qr	<0.0200	<0.0200	89.7 B	<4.00

Sample: 401356 - AH-1 0-1

Param	Flag	Result	Units	RL
Chloride		228	mg/Kg	50

Sample: 401357 - AH-1 1-1.5

Param	Flag	Result	Units	RL
Chloride		307	mg/Kg	50

Sample: 401358 - AH-2 0-1

¹dilution due to hydrocarbons.

²dilution due to hydrocarbons.

Report Date: August 14, 2015

Work Order: 15080656

Page Number: 2 of 2

Param	Flag	Result	Units	RL
Chloride		376	mg/Kg	50

Sample: 401359 - AH-3 0-1

Param	Flag	Result	Units	RL
Chloride		<50.0	mg/Kg	50



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1296
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavaréz
Tetra Tech
1901 N. Big Spring St.
Midland, TX, 79705

Report Date: August 14, 2015

Work Order: 15080656



Project Location: Eddy Co, NM
Project Name: Conoco Phillips-Stampede Fed. 34-1H
Project Number: 212C-MD-00309

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
401356	AH-1 0-1	soil	2015-08-05	00:00	2015-08-06
401357	AH-1 1-1.5	soil	2015-08-05	00:00	2015-08-06
401358	AH-2 0-1	soil	2015-08-05	00:00	2015-08-06
401359	AH-3 0-1	soil	2015-08-05	00:00	2015-08-06

Notes

• **Work Order 15080656:** Run deeper samples if TPH exceeds 5,000mg/kg, if Benzene exceeds 10mg/kg or total BTEX exceeds 50mg/kg

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 22 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

A handwritten signature in black ink, reading "Blair Leftwich". The signature is written in a cursive style and is positioned above a horizontal line.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

Report Contents

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Case Narrative

Samples for project Conoco Phillips-Stampede Fed. 34-1H were received by TraceAnalysis, Inc. on 2015-08-06 and assigned to work order 15080656. Samples for work order 15080656 were received intact at a temperature of 0.4 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	104787	2015-08-11 at 12:50	123934	2015-08-11 at 12:50
Chloride (Titration)	SM 4500-Cl B	104837	2015-08-13 at 11:48	123997	2015-08-13 at 11:49
TPH DRO	S 8015 D	104822	2015-08-13 at 09:08	123977	2015-08-13 at 09:13
TPH GRO	S 8015 D	104787	2015-08-11 at 12:50	123935	2015-08-11 at 12:50

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15080656 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

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Analytical Report

Sample: 401356 - AH-1 0-1

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 123934
Prep Batch: 104787

Analytical Method: S 8021B
Date Analyzed: 2015-08-11
Sample Preparation: 2015-08-11

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Toluene	Qr,U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Xylene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		s	1.64	mg/Kg	1	2.00	82	65.6 - 125
4-Bromofluorobenzene (4-BFB)		s	1.93	mg/Kg	1	2.00	96	67.9 - 120

Sample: 401356 - AH-1 0-1

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	228	mg/Kg	1	50.0

Sample: 401356 - AH-1 0-1

Laboratory: Lubbock
Analysis: TPH DRO
QC Batch: 123977
Prep Batch: 104822

Analytical Method: S 8015 D
Date Analyzed: 2015-08-13
Sample Preparation:

Prep Method: N/A
Analyzed By: HJ
Prepared By: HJ

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	D	1,2,3,4	265	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		s	176	mg/Kg	1	150	117	48.9 - 172

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Sample: 401356 - AH-1 0-1

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 123935
Prep Batch: 104787

Analytical Method: S 8015 D
Date Analyzed: 2015-08-11
Sample Preparation: 2015-08-11

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1,2,3,4	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Q#r	3	1.51	mg/Kg	1	2.00	76	76.5 - 130
4-Bromofluorobenzene (4-BFB)		3	1.78	mg/Kg	1	2.00	89	68.4 - 120

Sample: 401357 - AH-1 1-1.5

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	307	mg/Kg	1	50.0

Sample: 401358 - AH-2 0-1

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 123934
Prep Batch: 104787

Analytical Method: S 8021B
Date Analyzed: 2015-08-11
Sample Preparation: 2015-08-11

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Toluene	Q#r,U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Xylene	U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.69	mg/Kg	5	2.00	84	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	1.92	mg/Kg	5	2.00	96	67.9 - 120

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Sample: 401358 - AH-2 0-1

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	376	mg/Kg	1	50.0

Sample: 401358 - AH-2 0-1

Laboratory: Lubbock
Analysis: TPH DRO
QC Batch: 123977
Prep Batch: 104822

Analytical Method: S 8015 D
Date Analyzed: 2015-08-13
Sample Preparation:

Prep Method: N/A
Analyzed By: HJ
Prepared By: HJ

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	D	1,2,3,4	10200	mg/Kg	1	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{or}	Q _{or}	3	370	mg/Kg	1	25.0	1480	48.9 - 172

Sample: 401358 - AH-2 0-1

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 123935
Prep Batch: 104787

Analytical Method: S 8015 D
Date Analyzed: 2015-08-11
Sample Preparation: 2015-08-11

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1,2,3,4	63.4	mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)	Q _{or}	Q _{or}	3	1.47	mg/Kg	5	2.00	74	76.5 - 130
4-Bromofluorobenzene (4-BFB)			3	2.38	mg/Kg	5	2.00	119	68.4 - 120

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Sample: 401359 - AH-3 0-1

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 123934

Prep Batch: 104787

Analytical Method: S 8021B

Date Analyzed: 2015-08-11

Sample Preparation: 2015-08-11

Prep Method: S 5035

Analyzed By: JS

Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Toluene	Q+,U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Xylene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.88	mg/Kg	1	2.00	94	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	1.90	mg/Kg	1	2.00	95	67.9 - 120

Sample: 401359 - AH-3 0-1

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	<50.0	mg/Kg	1	50.0

Sample: 401359 - AH-3 0-1

Laboratory: Lubbock

Analysis: TPH DRO

QC Batch: 123977

Prep Batch: 104822

Analytical Method: S 8015 D

Date Analyzed: 2015-08-13

Sample Preparation:

Prep Method: N/A

Analyzed By: HJ

Prepared By: HJ

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	B	1,2,3,4	89.7	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	34.8	mg/Kg	1	25.0	139	48.9 - 172

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Sample: 401359 - AH-3 0-1

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 123935
Prep Batch: 104787

Analytical Method: S 8015 D
Date Analyzed: 2015-08-11
Sample Preparation: 2015-08-11

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1.2.3.4	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	1.71	mg/Kg	1	2.00	86	76.5 - 130
4-Bromofluorobenzene (4-BFB)		3	1.75	mg/Kg	1	2.00	88	68.4 - 120

Method Blanks

Method Blank (1) QC Batch: 123934

QC Batch: 123934
Prep Batch: 104787

Date Analyzed: 2015-08-11
QC Preparation: 2015-08-11

Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1,2,3,4,5	<0.00444	mg/Kg	0.02
Toluene		1,2,3,4,5	<0.00457	mg/Kg	0.02
Ethylbenzene		1,2,3,4,5	<0.00762	mg/Kg	0.02
Xylene		1,2,3,4,5	0.00600	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		s	2.10	mg/Kg	1	2.00	105	65.6 - 125
4-Bromofluorobenzene (4-BFB)		s	2.13	mg/Kg	1	2.00	106	67.9 - 120

Method Blank (1) QC Batch: 123935

QC Batch: 123935
Prep Batch: 104787

Date Analyzed: 2015-08-11
QC Preparation: 2015-08-11

Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1,2,3,4	<0.641	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		s	1.94	mg/Kg	1	2.00	97	76.5 - 130
4-Bromofluorobenzene (4-BFB)		s	1.95	mg/Kg	1	2.00	98	68.4 - 120

Method Blank (1) QC Batch: 123977

QC Batch: 123977
Prep Batch: 104822

Date Analyzed: 2015-08-13
QC Preparation: 2015-08-13

Analyzed By: HJ
Prepared By: HJ

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Parameter	Flag	Cert	MDL Result	Units	RL
DRO	B	B	16.2	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	30.3	mg/Kg	1	25.0	121	48.9 - 172

Method Blank (1) QC Batch: 123997

QC Batch: 123997
Prep Batch:

Date Analyzed:
QC Preparation:

Analyzed By:
Prepared By:

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	<31.4	mg/Kg	50

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 123934
Prep Batch: 104787

Date Analyzed: 2015-08-11
QC Preparation: 2015-08-11

Analyzed By: JS
Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	2.01	mg/Kg	1	2.00	<0.00444	100	71.4 - 120
Toluene		1,2,3,4,5	2.03	mg/Kg	1	2.00	<0.00457	102	71.8 - 120
Ethylbenzene		1,2,3,4,5	2.03	mg/Kg	1	2.00	<0.00762	102	71.1 - 120
Xylene		1,2,3,4,5	5.95	mg/Kg	1	6.00	0.006	99	72.5 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	1.98	mg/Kg	1	2.00	<0.00444	99	71.4 - 120	2	20
Toluene		1,2,3,4,5	2.00	mg/Kg	1	2.00	<0.00457	100	71.8 - 120	2	20
Ethylbenzene		1,2,3,4,5	1.99	mg/Kg	1	2.00	<0.00762	100	71.1 - 120	2	20
Xylene		1,2,3,4,5	5.83	mg/Kg	1	6.00	0.006	97	72.5 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	1.94	1.93	mg/Kg	1	2.00	97	96	65.6 - 125
4-Bromofluorobenzene (4-BFB)	5	2.00	1.96	mg/Kg	1	2.00	100	98	67.9 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 123935
Prep Batch: 104787

Date Analyzed: 2015-08-11
QC Preparation: 2015-08-11

Analyzed By: JS
Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1,2,3,4	16.2	mg/Kg	1	20.0	<0.641	81	60.3 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1,2,3,4	16.8	mg/Kg	1	20.0	<0.641	84	60.3 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	3	1.86	1.64	mg/Kg	1	2.00	93	82	76.5 - 130
4-Bromofluorobenzene (4-BFB)	3	2.02	2.05	mg/Kg	1	2.00	101	102	68.4 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 123977
Prep Batch: 104822

Date Analyzed: 2015-08-13
QC Preparation: 2015-08-13

Analyzed By: HJ
Prepared By: HJ

Param	F		C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	B	B	1,2,3,4	532	mg/Kg	1	500	16.2	103	60.9 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F		C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	B	B	1,2,3,4	482	mg/Kg	1	500	16.2	93	60.9 - 130	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
n-Tricosane	3	33.2	30.7	mg/Kg	1	25.0	133	123	48.9 - 172

Laboratory Control Spike (LCS-1)

QC Batch: 123997
Prep Batch:

Date Analyzed:
QC Preparation:

Analyzed By:
Prepared By:

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	2380	mg/Kg	5	2500	<157	95	85 - 115

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Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	2380	mg/Kg	5	2500	<157	95	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 401711

QC Batch: 123934
Prep Batch: 104787

Date Analyzed: 2015-08-11
QC Preparation: 2015-08-11

Analyzed By: JS
Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1 2 3 4 5	1.89	mg/Kg	5	2.00	<0.0222	94	63.9 - 132
Toluene		1 2 3 4 5	1.93	mg/Kg	5	2.00	<0.0228	96	64 - 141
Ethylbenzene		1 2 3 4 5	1.90	mg/Kg	5	2.00	<0.0381	95	66.7 - 148
Xylene		1 2 3 4 5	5.63	mg/Kg	5	6.00	<0.0184	94	63.6 - 145

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1 2 3 4 5	1.58	mg/Kg	5	2.00	<0.0222	79	63.9 - 132	18	20
Toluene	Qr	Qr 1 2 3 4 5	1.56	mg/Kg	5	2.00	<0.0228	78	64 - 141	21	20
Ethylbenzene		1 2 3 4 5	1.58	mg/Kg	5	2.00	<0.0381	79	66.7 - 148	18	20
Xylene		1 2 3 4 5	4.64	mg/Kg	5	6.00	<0.0184	77	63.6 - 145	19	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	2.07	1.71	mg/Kg	5	2	104	65.6 - 125
4-Bromofluorobenzene (4-BFB)	5	2.06	1.72	mg/Kg	5	2	103	67.9 - 120

Matrix Spike (MS-1) Spiked Sample: 401711

QC Batch: 123935
Prep Batch: 104787

Date Analyzed: 2015-08-11
QC Preparation: 2015-08-11

Analyzed By: JS
Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1 2 3 4	15.0	mg/Kg	5	20.0	<3.20	75	25 - 139

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1,2,3,4	13.1	mg/Kg	5	20.0	<3.20	66	25 - 139	14	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate				MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	Q _{sr}	Q _{sr}	3	1.38	1.24	mg/Kg	5	2	69	62	76.5 - 130
4-Bromofluorobenzene (4-BFB)			3	1.93	1.66	mg/Kg	5	2	96	83	68.4 - 120

Matrix Spike (MS-1) Spiked Sample: 401356

QC Batch: 123977
Prep Batch: 104822

Date Analyzed: 2015-08-13
QC Preparation: 2015-08-13

Analyzed By: HJ
Prepared By: HJ

Param	F		C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	D	D	1,2,3,4	746	mg/Kg	1	500	265	96	47.9 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F			C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	B	B	1,2,3,4		748	mg/Kg	1	500	265	97	47.9 - 130	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	3	168	172	mg/Kg	1	150	112	115	48.9 - 172

Matrix Spike (MS-1) Spiked Sample: 401672

QC Batch: 123997
Prep Batch:

Date Analyzed:
QC Preparation:

Analyzed By:
Prepared By:

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	4600	mg/Kg	5	2500	2330	91	80 - 120

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Work Order: 15080656
Conoco Phillips-Stampede Fed. 34-1H

Page Number: 17 of 22
Eddy Co, NM

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	4700	mg/Kg	5	2500	2330	95	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (CCV-1)

QC Batch: 123934

Date Analyzed: 2015-08-11

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/kg	0.100	0.0991	99	80 - 120	2015-08-11
Toluene		1,2,3,4,5	mg/kg	0.100	0.0997	100	80 - 120	2015-08-11
Ethylbenzene		1,2,3,4,5	mg/kg	0.100	0.0997	100	80 - 120	2015-08-11
Xylene		1,2,3,4,5	mg/kg	0.300	0.291	97	80 - 120	2015-08-11

Standard (CCV-2)

QC Batch: 123934

Date Analyzed: 2015-08-11

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/kg	0.100	0.0938	94	80 - 120	2015-08-11
Toluene		1,2,3,4,5	mg/kg	0.100	0.0932	93	80 - 120	2015-08-11
Ethylbenzene		1,2,3,4,5	mg/kg	0.100	0.0922	92	80 - 120	2015-08-11
Xylene		1,2,3,4,5	mg/kg	0.300	0.270	90	80 - 120	2015-08-11

Standard (CCV-1)

QC Batch: 123935

Date Analyzed: 2015-08-11

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3,4	mg/Kg	1.00	1.02	102	80 - 120	2015-08-11

Standard (CCV-2)

QC Batch: 123935

Date Analyzed: 2015-08-11

Analyzed By: JS

Report Date: August 14, 2015
212C-MD-00309

Work Order: 15080656
Conoco Phillips-Stampede Fed. 34-1H

Page Number: 19 of 22
Eddy Co, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1 2 3 4	mg/Kg	1.00	0.930	93	80 - 120	2015-08-11

Standard (CCV-1)

QC Batch: 123977

Date Analyzed: 2015-08-13

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1 2 3 4	mg/Kg	500	485	97	80 - 120	2015-08-13

Standard (CCV-2)

QC Batch: 123977

Date Analyzed: 2015-08-13

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1 2 3 4	mg/Kg	500	482	96	80 - 120	2015-08-13

Standard (ICV-1)

QC Batch: 123997

Date Analyzed:

Analyzed By:

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/Kg	100	100	100	85 - 115	2015-08-13

Standard (CCV-1)

QC Batch: 123997

Date Analyzed:

Analyzed By:

Report Date: August 14, 2015
212C-MD-00309

Work Order: 15080656
Conoco Phillips-Stampede Fed. 34-1H

Page Number: 20 of 22
Eddy Co, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/Kg	100	100	100	85 - 115	2015-08-13

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-15-11	Lubbock
5		2014-018	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.

Report Date: August 14, 2015
212C-MD-00309

Work Order: 15080656
Conoco Phillips-Stampede Fed. 34-1H

Page Number: 22 of 22
Eddy Co, NM

F Description

U The analyte is not detected above the SDL

Result Comments

- 1 dilution due to hydrocarbons.
- 2 dilution due to hydrocarbons.

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

Analysis Request of Chain of Custody Record



TETRA TECH

**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946**

(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME		SITE MANAGER:	
PROJECT NO.: 212C-MD-00308		PROJECT NAME: Stampede Fed. 34-1H	
LAB I.D. NUMBER	DATE	TIME	MATRIX
401356	8/5		S
401357	8/5		S
401358	8/5		S
401359	8/5		S

SAMPLE IDENTIFICATION
Eddy Co. NM

NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE
1				X	
1				X	
1				X	
1				X	

PRESERVATIVE METHOD

PAH 8270	RCCA Metals Ag As Ba Cd	TCLP Metals Ag As Ba Cd	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8280/824	GC/MS Semi. Vol. 8270/825	PCB's 8080/608	Post 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TD
TPH 8015 MOD. TX1005														
BTEX 8021B														

RECEIVED BY (Signature) _____
Date: 8-10-15
Time: 15:17

RELINQUISHED BY (Signature) _____
Date: 8-6-15
Time: 11:42

RECEIVED BY (Signature) _____
Date: _____
Time: _____

RECEIVED BY (Signature) _____
Date: _____
Time: _____

RECEIVED BY (Signature) _____
Date: _____
Time: _____

RECEIVING LABORATORY: _____
ADDRESS: _____
CITY: _____
STATE: _____
ZIP: _____
PHONE: _____

SAMPLE CONDITION WHEN RECEIVED: 0.4

REMARKS: Run deeper samples if TPH exceeds 5,000 mg/kg, if Benzene exceeds 10 mg/kg OR total BTEX exceeds 50 mg/kg.

RESULTS BY: _____
RUSH CHARGES AUTHORIZED: Yes No

AIRBILL #: _____
OTHER: _____

SAMPLE SHIPPED BY (Circle): BUS FEDEX HAND DELIVERED UPS

SAMPLED BY (Print & Initial): LG
Date: 8-9-15
Time: _____

1KE TAVAREZ

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Project Manager retaining PINK copy - Accounting receives Gold copy.

Summary Report

Ike Tavarez
Tetra Tech
1901 N. Big Spring St.
Midland, TX 79705

Report Date: August 12, 2015

Work Order: 15080748



Project Location: Eddy Co, NM
Project Name: Conoco Phillips-Stampede Fed 34-1H
Project Number: 212C-MD-00309

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
401510	BG-1 (0-1)	soil	2015-08-07	00:00	2015-08-07

Sample: 401510 - BG-1 (0-1)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1296
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1901 N. Big Spring St.
Midland, TX, 79705

Report Date: August 12, 2015

Work Order: 15080748



Project Location: Eddy Co, NM
Project Name: Conoco Phillips-Stampede Fed 34-1H
Project Number: 212C-MD-00309

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
401510	BG-1 (0-1)	soil	2015-08-07	00:00	2015-08-07

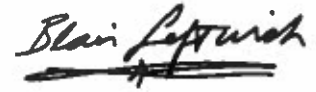
Notes

- **Work Order 15080748:** From the fields, on ice

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 11 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

A handwritten signature in black ink, reading "Blair Leftwich". The signature is written in a cursive style with a prominent "B" and "L". Below the signature, there are several horizontal lines, some of which are crossed out with a single stroke.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

Report Contents

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QC Batch 123957 - LCS (1)	7
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Calibration Standards	9
QC Batch 123957 - ICV (1)	9
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Case Narrative

Samples for project Conoco Phillips-Stampede Fed 34-1H were received by TraceAnalysis, Inc. on 2015-08-07 and assigned to work order 15080748. Samples for work order 15080748 were received intact at a temperature of 17.1 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	104803	2015-08-12 at 13:11	123957	2015-08-12 at 13:27

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15080748 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: August 12, 2015
212C-MD-00309

Work Order: 15080748
Conoco Phillips-Stampede Fed 34-1H

Page Number: 5 of 11
Eddy Co, NM

Analytical Report

Sample: 401510 - BG-1 (0-1)

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 123957

Prep Batch: 104803

Analytical Method: SM 4500-Cl B

Date Analyzed: 2015-08-12

Sample Preparation: 2015-08-12

Prep Method: N/A

Analyzed By: AM

Prepared By: AM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Report Date: August 12, 2015
212C-MD-00309

Work Order: 15080748
Conoco Phillips-Stampede Fed 34-1H

Page Number: 6 of 11
Eddy Co, NM

Method Blanks

Method Blank (1) QC Batch: 123957

QC Batch: 123957
Prep Batch: 104803

Date Analyzed: 2015-08-12
QC Preparation: 2015-08-12

Analyzed By: AM
Prepared By: AM

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Report Date: August 12, 2015
212C-MD-00309

Work Order: 15080748
Conoco Phillips-Stampede Fed 34-1H

Page Number: 7 of 11
Eddy Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 123957
Prep Batch: 104803

Date Analyzed: 2015-08-12
QC Preparation: 2015-08-12

Analyzed By: AM
Prepared By: AM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2520	mg/Kg	5	2500	<19.2	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2330	mg/Kg	5	2500	<19.2	93	85 - 115	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: August 12, 2015
212C-MD-00309

Work Order: 15080748
Conoco Phillips-Stampede Fed 34-1H

Page Number: 8 of 11
Eddy Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 401719

QC Batch: 123957
Prep Batch: 104803

Date Analyzed: 2015-08-12
QC Preparation: 2015-08-12

Analyzed By: AM
Prepared By: AM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2720	mg/Kg	5	2500	194	101	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2620	mg/Kg	5	2500	194	97	78.9 - 121	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (ICV-1)

QC Batch: 123957

Date Analyzed: 2015-08-12

Analyzed By: AM

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.0	99	85 - 115	2015-08-12

Standard (CCV-1)

QC Batch: 123957

Date Analyzed: 2015-08-12

Analyzed By: AM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2015-08-12

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

Report Date: August 12, 2015
212C-MD-00309

Work Order: 15080748
Conoco Phillips-Stampede Fed 34-1H

Page Number: 11 of 11
Eddy Co, NM

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

Analytical Report 517289

**for
Tetra Tech- Midland**

**Project Manager: Ike Tavaréz
ConocoPhillips - Stampede Fed 34-1H
212C-MD-00309**

19-OCT-15

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



19-OCT-15

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

Reference: XENCO Report No(s): **517289**
ConocoPhillips - Stampede Fed 34-1H
Project Address: Eddy Co., NM

Ike Tavaréz:

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) 517289. 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. 517289 will be filed for 60 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

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Sample Cross Reference 517289



Tetra Tech- Midland, Midland, TX

ConocoPhillips - Stampede Fed 34-1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CS-1 0-1 (AH-2 1' BEB)	S	10-12-15 00:00	N/A	517289-001



CASE NARRATIVE



Client Name: Tetra Tech- Midland

Project Name: ConocoPhillips - Stampede Fed 34-1H

Project ID: 212C-MD-00309

Work Order Number(s): 517289

Report Date: 19-OCT-15

Date Received: 10/12/2015

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Project Id: 212C-MD-00309
Contact: Ike Tavaraz
Project Location: Eddy Co., NM

Certificate of Analysis Summary 517289

Tetra Tech- Midland, Midland, TX

Project Name: ConocoPhillips - Stampede Fed 34-1H

Date Received in Lab: Mon Oct-12-15 02:05 pm
Report Date: 19-OCT-15
Project Manager: Kelsey Brooks



Analysis Requested	Lab Id:	517289-001					
	Field Id:	CS-1 0-1 (AIT-2 1' BEB)					
	Depth:						
	Matrix:	SOLID					
	Sampled:	Oct-12-15 00:00					
TPH By SW8015B Mod	Extracted:	Oct-16-15 18 30					
	Analyzed:	Oct-17-15 08 17					
	Units/RL:	mg/kg RL					
C6-C10 Gasoline Range Hydrocarbons		ND 14.9					
C10-C28 Diesel Range Organics		ND 14.9					
Total TPH		ND 14.9					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks

Kelsey Brooks
Project Manager



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

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5332 Blackberry Drive, San Antonio TX 78238
2505 North Falkenburg Rd, Tampa, FL 33619
12600 West I-20 East, Odessa, TX 79765
6017 Financial Drive, Norcross, GA 30071
3725 E. Atlanta Ave, Phoenix, AZ 85040

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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: ConocoPhillips - Stampede Fed 34-1H

Work Orders : 517289,

Project ID: 212C-MD-00309

Lab Batch #: 979371

Sample: 517289-001 / SMP

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/15 08:17

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.6	109	70-135	
o-Terphenyl	52.4	49.8	105	70-135	

Lab Batch #: 979371

Sample: 699640-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/15 05:27

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	51.4	50.0	103	70-135	

Lab Batch #: 979371

Sample: 699640-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/15 05:51

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 979371

Sample: 699640-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/15 06:14

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	52.8	50.0	106	70-135	

Lab Batch #: 979371

Sample: 517289-001 S / MS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/15 08:42

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	129	99.8	129	70-135	
o-Terphenyl	55.5	49.9	111	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] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries
Project Name: ConocoPhillips - Stampede Fed 34-1H

Work Orders : 517289,

Lab Batch #: 979371

Sample: 517289-001 SD / MSD

Project ID: 212C-MD-00309

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 10/17/15 09:08

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	118	99.9	118	70-135	
o-Terphenyl	49.4	50.0	99	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] = $100 \times A / B$

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



BS / BSD Recoveries



Project Name: ConocoPhillips - Stampede Fed 34-1H

Work Order #: 517289

Analyst: PJB

Lab Batch ID: 979371

Units: mg/kg

Sample: 699640-1-BKS

Date Prepared: 10/16/2015

Batch #: 1

Project ID: 212C-MD-00309

Date Analyzed: 10/17/2015

Matrix: Solid

Units: mg/kg		BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	TPH By SW8015B Mod	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
	C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	854	85	1000	917	92	7	70-135	35	
	C10-C28 Diesel Range Organics	<15.0	1000	1000	100	1000	1080	108	8	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



Form 3 - MS / MSD Recoveries

Project Name: ConocoPhillips - Stampede Fed 34-1H



Work Order #: 517289

Lab Batch ID: 979371

Date Analyzed: 10/17/2015

Reporting Units: mg/kg

Project ID: 212C-MD-00309

Batch #: 1 Matrix: Solid

QC-Sample ID: 517289-001 S Analyst: PJB

Date Prepared: 10/16/2015

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B 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
C6-C10 Gasoline Range Hydrocarbons	<15.0	998	1000	100	999	846	85	17	70-135	35	
C10-C28 Diesel Range Organics	<15.0	998	1170	117	999	1010	101	15	70-135	35	

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

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



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland

Date/ Time Received: 10/12/2015 02:05:00 PM

Work Order #: 517289

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/12/2015

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/12/2015