AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pJK1424834050

3RP - 1013

Williams Four Corners, LLC

8/31/2017

3R-1013

Release Report/ General Correspondence

Williams SJ

Date: Apr-Jun 2017

241

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

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company: **Williams Four Corners LLC**	Contact: **Kijun Hong**
Address: **1755 Arroyo Dr., Farmington, NM 87413**	Telephone No.: **(505) 632-4475**
Facility Name: **Sadie West**	Facility Type: **Pipeline drip**

Surface Owner: **BLM**	Mineral Owner	BLM Project No. **NMNM044832**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	**21**	**31N**	**12W**					**San Juan**

Latitude 36.8815 Longitude -108.1077

NATURE OF RELEASE

Type of Release: **Natural Gas and liquids**	Volume of Release: **392 MCF 15 gal liquids**	Volume Recovered: **15 gal liquids**
Source of Release: **Pipeline drip**	Date and Hour of Occurrence: **05/15/2017 at 01:00 PM**	Date and Hour of Discovery: **05/15/2017 at 01:00 PM**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? **NA**	
By Whom? **NA**	Date and Hour: **NA**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.* **NA**

Describe Cause of Problem and Remedial Action Taken.*
Cow rubbed against a locked valve and broke the stop plate. This allowed the valve to open 1/4 of the way releasing 392 MCF natural gas. 15 gallons of liquids splashed from the drip tank into secondary containment. Valve has been closed and all liquids were recovered.

Describe Area Affected and Cleanup Action Taken.*
All liquids were captured by the secondary containment and recovered.

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 Approved by Environmental Specialist:
Printed Name: **Kijun Hong**	
Title: **Environmental Specialist**	Approval Date: 5/25/2017 Expiration Date:
E-mail Address: **kijun.hong@williams.com**	Conditions of Approval: — Attached ☐
Date: **05/18/2017** Phone: **(505) 632-4475**	

* Attach Additional Sheets If Necessary

NVF1714533207

OIL CONS. DIV DIST. 3

MAY 22 2017

District I
1625 N. French Dr., Hobbs, NM 88240
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Form C-141
Revised August 8, 2011

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Williams Four Corners LLC	Contact Michael Hannan
Address 1754 Arroyo Dr., Bloomfield, NM 87413	Telephone No. 505-632-4807
Facility Name Milagro Gas Plant	Facility Type Facility

Surface Owner Private	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	12	29N	11W					San Juan

Latitude 36.735966° N **Longitude** -107.942329° W

NATURE OF RELEASE

Type of Release Natural Gas	Volume of Release 86 MCF	Volume Recovered 0 MCF
Source of Release ESD	Date and Hour of Occurrence 04/24/17 at 8:50 AM	Date and Hour of Discovery 04/24/17 at 8:50 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour NA	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The Milagro plant incurred an ESD event while bring the plant back up from a shut down on Boiler 5. During this event 86 MCF of natural gas was blown down through the outlet header and ESD vent.

Describe Area Affected and Cleanup Action Taken.*

No clean-up required for natural gas releases vented to atmosphere.

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: Michael Hannan	Approved by Environmental Specialist:	
Title: Engineer, Sr.	Approval Date: 5/11/17	Expiration Date:
E-mail Address: michael.hannan@williams.com	Conditions of Approval: —	Attached ☐
Date: 05/01/2017 Phone: 505-632-4807		

* Attach Additional Sheets If Necessary #nCS1713154210

OIL CONS. DIV DIST. 3

MAY 04 2017

(1)

District I
1625 N. French Dr., Hobbs, NM 88240
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Revised August 8, 2011

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company: Williams Four Corners LLC	Contact: Kijun Hong
Address: 1755 Arroyo Dr., Farmington, NM 87413	Telephone No.: (505) 632-4475
Facility Name: Cabresto	Facility Type: Compressor Station

Surface Owner:	Mineral Owner	BLM Project No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	19	30N	4W					San Juan

Latitude 36.802416 **Longitude** -107.290237

NATURE OF RELEASE

Type of Release: Flash Fire	Volume of Release: <1 MCF	Volume Recovered: NA
Source of Release: Compressor engine low pressure starter	Date and Hour of Occurrence: 03/03/17 at 11:30 AM MST	Date and Hour of Discovery: 03/03/17 at 11:30 AM MST
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour: Not Applicable	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. Not Applicable	

OIL CONS. DIV DIST. 3
APR 07 2017

If a Watercourse was Impacted, Describe Fully.*
Not Applicable

Describe Cause of Problem and Remedial Action Taken.*
The low pressure starter has a 3" exhaust that was not connected when the starter was replaced. When a contractor went to start the compressor engine, the gas was released in the immediate vicinity of the compressor and found an ignition source (spark plug) which resulted in a flash fire. The contract employee required first aid to address 1st and 2nd degree burns to the face. A heavy tarp was draped over the unit to keep the heat around the controls which trapped the gas when the start button was pushed to engage the starter.

Describe Area Affected and Cleanup Action Taken.*
There were no signs of soil impacts or liquids loss. The following corrections were made on the day of the incident after approval by Williams compression supervision before the compressor was placed back into service: (1) the exhaust was connected properly to the starter to allow for the exhaust gas to travel up above the cooler; (2) the candlestick type spark plugs were replace/repaired and the spark plugs were replaced; (3) the tarp was removed; and (4) the entire unit was checked for gas leaks with a gas detector.

An incident investigation has been conducted by the contract company and Williams to determine root cause(s) and prevent recurrence.

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 Approved by Environmental Specialist:
Printed Name: Matt Webre	
Title: EHS Supervisor	Approval Date: 4/19/2017 Expiration Date:
E-mail Address: matt.webre@williams.com	Conditions of Approval: Inc# NVF1710949748 Attached ☐
Date: 03/29/2017 Phone: (505) 632-4442	

* Attach Additional Sheets If Necessary

24 Hour Provide notification per 19.15.29

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District I
1625 N. French Dr., Hobbs, NM 88240
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Form C-141
Revised August 8, 2011

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Williams Four Corners LLC	Contact Mitch Morris
Address 1755 Arroyo Drive	Telephone No. 505-632-4708
Facility Name Newsom 1 Gathering Pipeline	Facility Type Pipeline

Surface Owner BLM	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	29	26N	8W					San Juan

Latitude 36.4562° N **Longitude** -107.6977° W

NATURE OF RELEASE

Type of Release Produced Water/Natural Gas	Volume of Release Estimated at 5 BBL's and 68.13 MCF gas	Volume Recovered 5 BBL's and 0 MCF
Source of Release Leak in pipeline	Date and Hour of Occurrence 4/7/2017, 2:30 PM MST	Date and Hour of Discovery 4/7/2017, 2:30 PM MST
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Cory Smith via Telephone	
By Whom? Mitch Morris	Date and Hour 4/7/2017 3:30 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. Not Applicable	

OIL CONS. DIV DIST. 3
APR 26 2017

If a Watercourse was Impacted, Describe Fully.*

Not Applicable

Describe Cause of Problem and Remedial Action Taken.*

Williams was notified by a 3rd party of a potential line leak. An operations technician responded immediately, located the line leak and isolated the pipeline.

Describe Area Affected and Cleanup Action Taken.*
A cleanup crew was mobilized immediately to the leak location. Initial cleanup commenced the afternoon of April 7, 2017 and the remaining cleanup was finished the following week. Confirmation soil samples are being submitted concurrently with this report.

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.

Mitch Morris Signature:	OIL CONSERVATION DIVISION Approved by Environmental Specialist:
Printed Name: Mitch Morris	
Title: Environmental Specialist	Approval Date: 4/27/2017 Expiration Date:
E-mail Address: Mitch.Morris@williams.com	~~Conditions of Approval:~~ INC# NVF1711852166 Attached ☐
Date: 4/21/2017 Phone: 505-632-4708	

* Attach Additional Sheets If Necessary

15

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 14, 2017

Mitch Morris
Williams Field Services
188 Co. Rd 4900
Bloomfield, NM 87413
TEL:
FAX

RE: Newsome 1 Line Leak OrderNo.: 1704544

Dear Mitch Morris:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/13/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1704544**
Date Reported: **4/14/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Newsome 1 Line Leak
Lab ID: 1704544-001 **Matrix:** MEOH (SOIL)

Client Sample ID: Newsome 1 North Wall
Collection Date: 4/12/2017 12:00:00 PM
Received Date: 4/13/2017 7:52:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/13/2017 10:12:08 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/13/2017 10:12:08 AM
Surr: DNOP	110	70-130		%Rec	1	4/13/2017 10:12:08 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	0.017		mg/Kg	1	4/13/2017 10:28:51 AM
Toluene	ND	0.035		mg/Kg	1	4/13/2017 10:28:51 AM
Ethylbenzene	ND	0.035		mg/Kg	1	4/13/2017 10:28:51 AM
Xylenes, Total	ND	0.069		mg/Kg	1	4/13/2017 10:28:51 AM
Surr: 1,2-Dichloroethane-d4	81.8	70-130		%Rec	1	4/13/2017 10:28:51 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/13/2017 10:28:51 AM
Surr: Dibromofluoromethane	93.0	70-130		%Rec	1	4/13/2017 10:28:51 AM
Surr: Toluene-d8	108	70-130		%Rec	1	4/13/2017 10:28:51 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	4/13/2017 10:28:51 AM
Surr: BFB	95.4	70-130		%Rec	1	4/13/2017 10:28:51 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Newsome 1 Line Leak
Lab ID: 1704544-002 **Matrix:** MEOH (SOIL)

Client Sample ID: Newsome 1 South Wall
Collection Date: 4/12/2017 12:05:00 PM
Received Date: 4/13/2017 7:52:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/13/2017 10:34:16 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/13/2017 10:34:16 AM
Surr: DNOP	113	70-130		%Rec	1	4/13/2017 10:34:16 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	0.019		mg/Kg	1	4/13/2017 10:58:00 AM
Toluene	ND	0.037		mg/Kg	1	4/13/2017 10:58:00 AM
Ethylbenzene	ND	0.037		mg/Kg	1	4/13/2017 10:58:00 AM
Xylenes, Total	ND	0.074		mg/Kg	1	4/13/2017 10:58:00 AM
Surr: 1,2-Dichloroethane-d4	81.8	70-130		%Rec	1	4/13/2017 10:58:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/13/2017 10:58:00 AM
Surr: Dibromofluoromethane	94.0	70-130		%Rec	1	4/13/2017 10:58:00 AM
Surr: Toluene-d8	106	70-130		%Rec	1	4/13/2017 10:58:00 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	4/13/2017 10:58:00 AM
Surr: BFB	95.9	70-130		%Rec	1	4/13/2017 10:58:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Newsome 1 Line Leak
Lab ID: 1704544-003 **Matrix:** MEOH (SOIL)

Client Sample ID: Newsome 1 East Wall
Collection Date: 4/12/2017 12:20:00 PM
Received Date: 4/13/2017 7:52:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/13/2017 10:56:17 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/13/2017 10:56:17 AM
Surr: DNOP	114	70-130		%Rec	1	4/13/2017 10:56:17 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	0.017		mg/Kg	1	4/13/2017 11:27:41 AM
Toluene	ND	0.034		mg/Kg	1	4/13/2017 11:27:41 AM
Ethylbenzene	ND	0.034		mg/Kg	1	4/13/2017 11:27:41 AM
Xylenes, Total	ND	0.068		mg/Kg	1	4/13/2017 11:27:41 AM
Surr: 1,2-Dichloroethane-d4	84.1	70-130		%Rec	1	4/13/2017 11:27:41 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/13/2017 11:27:41 AM
Surr: Dibromofluoromethane	92.3	70-130		%Rec	1	4/13/2017 11:27:41 AM
Surr: Toluene-d8	110	70-130		%Rec	1	4/13/2017 11:27:41 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	4/13/2017 11:27:41 AM
Surr: BFB	98.5	70-130		%Rec	1	4/13/2017 11:27:41 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Newsome 1 Line Leak
Lab ID: 1704544-004 **Matrix:** MEOH (SOIL)

Client Sample ID: Newsome 1 West Wall
Collection Date: 4/12/2017 12:15:00 PM
Received Date: 4/13/2017 7:52:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/13/2017 11:18:26 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/13/2017 11:18:26 AM
Surr: DNOP	109	70-130		%Rec	1	4/13/2017 11:18:26 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	0.021		mg/Kg	1	4/13/2017 11:56:45 AM
Toluene	ND	0.041		mg/Kg	1	4/13/2017 11:56:45 AM
Ethylbenzene	ND	0.041		mg/Kg	1	4/13/2017 11:56:45 AM
Xylenes, Total	ND	0.083		mg/Kg	1	4/13/2017 11:56:45 AM
Surr: 1,2-Dichloroethane-d4	80.8	70-130		%Rec	1	4/13/2017 11:56:45 AM
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	4/13/2017 11:56:45 AM
Surr: Dibromofluoromethane	89.5	70-130		%Rec	1	4/13/2017 11:56:45 AM
Surr: Toluene-d8	106	70-130		%Rec	1	4/13/2017 11:56:45 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	4/13/2017 11:56:45 AM
Surr: BFB	93.9	70-130		%Rec	1	4/13/2017 11:56:45 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Newsome 1 Line Leak
Lab ID: 1704544-005 **Matrix:** MEOH (SOIL)

Client Sample ID: Newsome 1 Bottom
Collection Date: 4/12/2017 12:10:00 PM
Received Date: 4/13/2017 7:52:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/13/2017 11:40:32 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/13/2017 11:40:32 AM
Surr: DNOP	109	70-130		%Rec	1	4/13/2017 11:40:32 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	0.020		mg/Kg	1	4/13/2017 12:25:38 PM
Toluene	ND	0.039		mg/Kg	1	4/13/2017 12:25:38 PM
Ethylbenzene	ND	0.039		mg/Kg	1	4/13/2017 12:25:38 PM
Xylenes, Total	ND	0.079		mg/Kg	1	4/13/2017 12:25:38 PM
Surr: 1,2-Dichloroethane-d4	82.0	70-130		%Rec	1	4/13/2017 12:25:38 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/13/2017 12:25:38 PM
Surr: Dibromofluoromethane	92.9	70-130		%Rec	1	4/13/2017 12:25:38 PM
Surr: Toluene-d8	104	70-130		%Rec	1	4/13/2017 12:25:38 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	4/13/2017 12:25:38 PM
Surr: BFB	94.3	70-130		%Rec	1	4/13/2017 12:25:38 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Newsome 1 Line Leak
Lab ID: 1704544-006 **Matrix:** MEOH (SOIL)

Client Sample ID: Newsome 1 Road Wall
Collection Date: 4/12/2017 12:25:00 PM
Received Date: 4/13/2017 7:52:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	21	9.5		mg/Kg	1	4/13/2017 12:02:43 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/13/2017 12:02:43 PM
Surr: DNOP	109	70-130		%Rec	1	4/13/2017 12:02:43 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	0.089		mg/Kg	5	4/13/2017 9:59:39 AM
Toluene	ND	0.18		mg/Kg	5	4/13/2017 9:59:39 AM
Ethylbenzene	ND	0.18		mg/Kg	5	4/13/2017 9:59:39 AM
Xylenes, Total	ND	0.36		mg/Kg	5	4/13/2017 9:59:39 AM
Surr: 1,2-Dichloroethane-d4	86.0	70-130		%Rec	5	4/13/2017 9:59:39 AM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	5	4/13/2017 9:59:39 AM
Surr: Dibromofluoromethane	95.7	70-130		%Rec	5	4/13/2017 9:59:39 AM
Surr: Toluene-d8	98.7	70-130		%Rec	5	4/13/2017 9:59:39 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	4/13/2017 9:59:39 AM
Surr: BFB	97.5	70-130		%Rec	5	4/13/2017 9:59:39 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Newsome 1 Line Leak
Lab ID: 1704544-007 **Matrix:** MEOH (SOIL)

Client Sample ID: Newsome 1 Low Area
Collection Date: 4/12/2017 12:30:00 PM
Received Date: 4/13/2017 7:52:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	24	9.4		mg/Kg	1	4/13/2017 12:24:47 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/13/2017 12:24:47 PM
Surr: DNOP	111	70-130		%Rec	1	4/13/2017 12:24:47 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	0.019		mg/Kg	1	4/13/2017 12:55:07 PM
Toluene	ND	0.039		mg/Kg	1	4/13/2017 12:55:07 PM
Ethylbenzene	ND	0.039		mg/Kg	1	4/13/2017 12:55:07 PM
Xylenes, Total	ND	0.078		mg/Kg	1	4/13/2017 12:55:07 PM
Surr: 1,2-Dichloroethane-d4	84.7	70-130		%Rec	1	4/13/2017 12:55:07 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/13/2017 12:55:07 PM
Surr: Dibromofluoromethane	91.9	70-130		%Rec	1	4/13/2017 12:55:07 PM
Surr: Toluene-d8	107	70-130		%Rec	1	4/13/2017 12:55:07 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	4/13/2017 12:55:07 PM
Surr: BFB	93.8	70-130		%Rec	1	4/13/2017 12:55:07 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704544**

14-Apr-17

Client: Williams Field Services

Project: Newsome 1 Line Leak

Sample ID **MB-31222**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31222**	RunNo: **42086**
Prep Date: **4/13/2017**	Analysis Date: **4/13/2017**	SeqNo: **1321896** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		112	70	130			

Sample ID **LCS-31222**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31222**	RunNo: **42086**
Prep Date: **4/13/2017**	Analysis Date: **4/13/2017**	SeqNo: **1321918** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	63.8	116			
Surr: DNOP	5.3		5.000		106	70	130			

Sample ID **1704544-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Newsome 1 North**	Batch ID: **31222**	RunNo: **42086**
Prep Date: **4/13/2017**	Analysis Date: **4/13/2017**	SeqNo: **1322367** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.3	46.64	2.910	96.9	51.6	130			
Surr: DNOP	4.8		4.664		104	70	130			

Sample ID **1704544-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Newsome 1 North**	Batch ID: **31222**	RunNo: **42086**
Prep Date: **4/13/2017**	Analysis Date: **4/13/2017**	SeqNo: **1322383** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.7	48.69	2.910	98.5	51.6	130	5.56	20	
Surr: DNOP	5.0		4.869		103	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704544**

14-Apr-17

Client: Williams Field Services

Project: Newsome 1 Line Leak

Sample ID **1704544-002ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Newsome 1 South**	Batch ID: **A42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322674** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.68	0.019	0.7418	0	91.8	61.9	146			
Toluene	0.74	0.037	0.7418	0	99.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.30		0.3709		80.9	70	130			
Surr: 4-Bromofluorobenzene	0.38		0.3709		102	70	130			
Surr: Dibromofluoromethane	0.32		0.3709		87.1	70	130			
Surr: Toluene-d8	0.39		0.3709		104	70	130			

Sample ID **1704544-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Newsome 1 South**	Batch ID: **A42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322675** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.019	0.7418	0	86.7	61.9	146	5.76	20	
Toluene	0.73	0.037	0.7418	0	99.0	70	130	0.749	20	
Surr: 1,2-Dichloroethane-d4	0.28		0.3709		76.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.38		0.3709		104	70	130	0	0	
Surr: Dibromofluoromethane	0.32		0.3709		87.5	70	130	0	0	
Surr: Toluene-d8	0.39		0.3709		104	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **A42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322677** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **A42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	70	130			
Toluene	0.92	0.050	1.000	0	92.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704544**

14-Apr-17

Client: Williams Field Services

Project: Newsome 1 Line Leak

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **A42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.42		0.5000		83.9	70	130			
Surr: 4-Bromofluorobenzene	0.54		0.5000		109	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.8	70	130			
Surr: Toluene-d8	0.48		0.5000		96.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704544**

14-Apr-17

Client: Williams Field Services

Project: Newsome 1 Line Leak

Sample ID **1704544-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Newsome 1 North**	Batch ID: **B42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322710** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.5	17.26	1.195	108	63.2	128			
Surr: BFB	340		345.3		97.4	70	130			

Sample ID **1704544-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Newsome 1 North**	Batch ID: **B42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322711** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.5	17.26	1.195	105	63.2	128	2.08	20	
Surr: BFB	320		345.3		91.9	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **B42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322714** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		97.6	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **B42100**	RunNo: **42100**
Prep Date:	Analysis Date: **4/13/2017**	SeqNo: **1322716** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	70	130			
Surr: BFB	490		500.0		97.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FIELD SERVI Work Order Number: 1704544 RcptNo: 1

Received By: Anne Thorne 4/13/2017 7:52:00 AM

Completed By: Lindsay Mangin 4/13/2017 8:03:18 AM

Reviewed By: AJ 4/13/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: WFS

Mailing Address: 188 CR 4900

Bloomfield NM 87413

Phone #: 505-632-4708

email or Fax#: Mitch.Morris@williams.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: Same Day

☐ Standard ☑ Rush 4-13-17

Project Name: NEW Some #1 2.NC Leak

Project #:

Project Manager: Mitch Morris

Sampler: Morgan Killcr

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1701544	BTEX + ~~MTBE~~ + ~~TMB~~'s (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/12/17	1250	soil	NewSome #1 North wall	1-402	Cool	-001	X		X													
4/12/17	1205	soil	NewSome #1 South wall	1-402		-002	X		X													
4/12/17	1220	soil	NewSome #1 East wall	1-402		-003	X		X													
4/12/17	1215	soil	NewSome #1 West Wall	1-402		-004	X		X													
4/12/17	1210	soil	NewSome #1 Bottom	1-402		-005	X		X													
4/12/17	1225	soil	NewSome #1 Road Way	1-402		-006	X		X													
4/12/17	1230	soil	NewSome #1 Low Area	1-402		-007	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/12/17	1710	Morgan Killcr	Christine Walters	4/12/17	1710
4/12/17	1847	Christine Walters		04/13/17	0752

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Williams Four Corners LLC	Contact Mitch Morris
Address 1755 Arroyo Drive, Bloomfield, NM 87413	Telephone No. 505-632-4708
Facility Name Buena Vista Compressor Station	Facility Type Compressor Station

Surface Owner State of New Mexico	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	32	24N	8W					San Juan

Latitude 36.2756 **Longitude** -107.698

NATURE OF RELEASE

Type of Release Produced Water/Hydrocarbon Liquids	Volume of Release 4 BBL's	Volume Recovered 4 BBL's
Source of Release Valve	Date and Hour of Occurrence 5/20/2016, 10:30AM	Date and Hour of Discovery 5/20/2016, 10:30 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Cory Smith, NMOCD via Phone Call	
By Whom? Mitch Morris	Date and Hour: Email 4/10/2017 ~10:30 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

OIL CONS. DIV DIST. 3

MAY 08 2017

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*
An unexpected amount of liquid hydrocarbon product at the inlet to the compressor station resulted in the above-ground storage tank to overflow. Most of the product was recovered from lined secondary containment.

Describe Area Affected and Cleanup Action Taken.*
A majority of the product was recovered from the lined secondary containment, however a portion of the product was misted/splashed outside of containment. Impacted soil was excavated and disposed of at an approved landfarm. A bio-treatment solution was applied to the open excavation prior to backfill.

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: Mitch Morris	Approved by Environmental Specialist:
Title: Environmental Specialist	Approval Date: 5/8/17 Expiration Date:
E-mail Address: mitch.morris@williams.com	Conditions of Approval: — Attached ☐
Date: May 3, 2017 Phone: 505-632-4708	

* Attach Additional Sheets If Necessary

#NCS1712856461

(13)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 28, 2017

Mitch Morris
Williams Field Services
1755 Arroyo Dr.,
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Buena Vista Compressor OrderNo.: 1704C04

Dear Mitch Morris:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/27/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1704C04**
Date Reported: **4/28/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Buena Vista Compressor
Lab ID: 1704C04-001 **Matrix:** MEOH (SOIL)

Client Sample ID: Buena Vista Side Walls
Collection Date: 4/26/2017 11:20:00 AM
Received Date: 4/27/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/27/2017 10:54:12 AM	31463
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	340	9.7		mg/Kg	1	4/27/2017 11:48:36 AM	31461
Motor Oil Range Organics (MRO)	180	48		mg/Kg	1	4/27/2017 11:48:36 AM	31461
Surr: DNOP	93.9	70-130		%Rec	1	4/27/2017 11:48:36 AM	31461
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	79	19		mg/Kg	5	4/27/2017 9:16:34 AM	G42416
Surr: BFB	248	54-150	S	%Rec	5	4/27/2017 9:16:34 AM	G42416
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.095		mg/Kg	5	4/27/2017 9:16:34 AM	B42416
Toluene	0.39	0.19		mg/Kg	5	4/27/2017 9:16:34 AM	B42416
Ethylbenzene	0.42	0.19		mg/Kg	5	4/27/2017 9:16:34 AM	B42416
Xylenes, Total	2.4	0.38		mg/Kg	5	4/27/2017 9:16:34 AM	B42416
Surr: 4-Bromofluorobenzene	126	66.6-132		%Rec	5	4/27/2017 9:16:34 AM	B42416

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Buena Vista Compressor
Lab ID: 1704C04-002 **Matrix:** MEOH (SOIL)

Client Sample ID: Buena Vista Bottom
Collection Date: 4/26/2017 11:25:00 AM
Received Date: 4/27/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/27/2017 11:06:37 AM	31463
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	12	9.2		mg/Kg	1	4/27/2017 10:25:23 AM	31461
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/27/2017 10:25:23 AM	31461
Surr: DNOP	90.0	70-130		%Rec	1	4/27/2017 10:25:23 AM	31461
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	4/27/2017 9:40:29 AM	G42416
Surr: BFB	109	54-150		%Rec	5	4/27/2017 9:40:29 AM	G42416
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.089		mg/Kg	5	4/27/2017 9:40:29 AM	B42416
Toluene	ND	0.18		mg/Kg	5	4/27/2017 9:40:29 AM	B42416
Ethylbenzene	ND	0.18		mg/Kg	5	4/27/2017 9:40:29 AM	B42416
Xylenes, Total	ND	0.36		mg/Kg	5	4/27/2017 9:40:29 AM	B42416
Surr: 4-Bromofluorobenzene	115	66.6-132		%Rec	5	4/27/2017 9:40:29 AM	B42416

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Buena Vista Compressor
Lab ID: 1704C04-003 **Matrix:** MEOH (SOIL)

Client Sample ID: Buena Vista Open Area Inside
Collection Date: 4/26/2017 11:30:00 AM
Received Date: 4/27/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/27/2017 11:19:02 AM	31463
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	10	9.9		mg/Kg	1	4/27/2017 10:53:10 AM	31461
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/27/2017 10:53:10 AM	31461
Surr: DNOP	86.8	70-130		%Rec	1	4/27/2017 10:53:10 AM	31461
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	4/27/2017 10:04:23 AM	G42416
Surr: BFB	105	54-150		%Rec	1	4/27/2017 10:04:23 AM	G42416
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	4/27/2017 10:04:23 AM	B42416
Toluene	ND	0.037		mg/Kg	1	4/27/2017 10:04:23 AM	B42416
Ethylbenzene	ND	0.037		mg/Kg	1	4/27/2017 10:04:23 AM	B42416
Xylenes, Total	ND	0.074		mg/Kg	1	4/27/2017 10:04:23 AM	B42416
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	4/27/2017 10:04:23 AM	B42416

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Buena Vista Compressor
Lab ID: 1704C04-004 **Matrix:** MEOH (SOIL)

Client Sample ID: Buena Vista Outside Fence
Collection Date: 4/26/2017 11:40:00 AM
Received Date: 4/27/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/27/2017 11:31:26 AM	31463
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	26	9.8		mg/Kg	1	4/27/2017 11:21:02 AM	31461
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/27/2017 11:21:02 AM	31461
Surr: DNOP	86.4	70-130		%Rec	1	4/27/2017 11:21:02 AM	31461
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	4/27/2017 10:28:22 AM	G42416
Surr: BFB	107	54-150		%Rec	1	4/27/2017 10:28:22 AM	G42416
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	4/27/2017 10:28:22 AM	B42416
Toluene	ND	0.043		mg/Kg	1	4/27/2017 10:28:22 AM	B42416
Ethylbenzene	ND	0.043		mg/Kg	1	4/27/2017 10:28:22 AM	B42416
Xylenes, Total	ND	0.085		mg/Kg	1	4/27/2017 10:28:22 AM	B42416
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	1	4/27/2017 10:28:22 AM	B42416

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704C04**

28-Apr-17

Client: Williams Field Services

Project: Buena Vista Compressor

Sample ID	**MB-31463**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**31463**	RunNo:	**42410**					
Prep Date:	**4/27/2017**	Analysis Date:	**4/27/2017**	SeqNo:	**1333834**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-31463**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**31463**	RunNo:	**42410**					
Prep Date:	**4/27/2017**	Analysis Date:	**4/27/2017**	SeqNo:	**1333835**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704C04**

28-Apr-17

Client: Williams Field Services

Project: Buena Vista Compressor

Sample ID **LCS-31461**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31461**	RunNo: **42401**
Prep Date: **4/27/2017**	Analysis Date: **4/27/2017**	SeqNo: **1333045** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.0	63.8	116			
Surr: DNOP	4.2		5.000		85.0	70	130			

Sample ID **MB-31461**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31461**	RunNo: **42401**
Prep Date: **4/27/2017**	Analysis Date: **4/27/2017**	SeqNo: **1333046** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		100	70	130			

Sample ID **LCS-31456**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31456**	RunNo: **42401**
Prep Date: **4/26/2017**	Analysis Date: **4/27/2017**	SeqNo: **1333965** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		95.7	70	130			

Sample ID **MB-31456**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31456**	RunNo: **42401**
Prep Date: **4/26/2017**	Analysis Date: **4/27/2017**	SeqNo: **1333966** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		107	70	130			

Sample ID **1704C04-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Buena Vista Side W**	Batch ID: **31461**	RunNo: **42400**
Prep Date: **4/27/2017**	Analysis Date: **4/27/2017**	SeqNo: **1333968** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	320	10	49.75	341.8	-35.5	51.6	130			S
Surr: DNOP	4.8		4.975		96.8	70	130			

Sample ID **1704C04-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Buena Vista Side W**	Batch ID: **31461**	RunNo: **42400**
Prep Date: **4/27/2017**	Analysis Date: **4/27/2017**	SeqNo: **1333969** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	340	9.8	49.21	341.8	5.17	51.6	130	6.05	20	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704C04**

28-Apr-17

Client: Williams Field Services

Project: Buena Vista Compressor

Sample ID **1704C04-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **Buena Vista Side W** Batch ID: **31461** RunNo: **42400**

Prep Date: **4/27/2017** Analysis Date: **4/27/2017** SeqNo: **1333969** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		4.921		97.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704C04**

28-Apr-17

Client: Williams Field Services

Project: Buena Vista Compressor

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333745** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1200		1000		116	54	150			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333746** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	76.4	125			
Surr: BFB	1200		1000		115	54	150			

Sample ID **1704C04-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Buena Vista Side W**	Batch ID: **G42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333747** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	180	19	94.99	78.92	111	61.3	150			
Surr: BFB	11000		3800		281	54	150			S

Sample ID **1704C04-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Buena Vista Side W**	Batch ID: **G42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333748** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	180	19	94.99	78.92	109	61.3	150	0.891	20	
Surr: BFB	10000		3800		269	54	150	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704C04**

28-Apr-17

Client: Williams Field Services

Project: Buena Vista Compressor

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333768** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.3		1.000		128	66.6	132			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333819** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.7	80	120			
Toluene	0.95	0.050	1.000	0	94.9	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.7	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	66.6	132			

Sample ID **1704C04-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **Buena Vista Bottom**	Batch ID: **B42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333820** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.3	0.089	3.569	0.03319	91.8	61.5	138			
Toluene	3.4	0.18	3.569	0.04176	93.7	71.4	127			
Ethylbenzene	3.4	0.18	3.569	0.03212	94.2	70.9	132			
Xylenes, Total	10	0.36	10.71	0.06924	96.1	76.2	123			
Surr: 4-Bromofluorobenzene	4.2		3.569		117	66.6	132			

Sample ID **1704C04-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **Buena Vista Bottom**	Batch ID: **B42416**	RunNo: **42416**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1333821** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.2	0.089	3.569	0.03319	90.0	61.5	138	2.05	20	
Toluene	3.3	0.18	3.569	0.04176	92.0	71.4	127	1.82	20	
Ethylbenzene	3.3	0.18	3.569	0.03212	92.7	70.9	132	1.69	20	
Xylenes, Total	10	0.36	10.71	0.06924	94.9	76.2	123	1.24	20	
Surr: 4-Bromofluorobenzene	4.1		3.569		114	66.6	132	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FIELD SERVI Work Order Number: 1704C04 RcptNo: 1

Received By: Sophia Campuzano 4/27/2017 7:00:00 AM

Completed By: Lindsay Mangin 4/27/2017 7:16:29 AM

Reviewed By: SRE 04/27/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Yes			

Chain-of-Custody Record

Client: WFS

Mailing Address: 188 CR 4900
Bloomfield NM 87413

Phone #: 505-632-4768

email or Fax#: Mitch.morris@williams.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☑ Rush Same Day 4-27-17

Project Name: Buena Vista compressor

Project #:

Project Manager: Mitch Morris

Sampler: Morgan Killion

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1704C04	BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Ch/Orde				Air Bubbles (Y or N)
4/26/17	1120	soil	Buena Vista side walls	1-402	Cool	-001	X		X									X				
4/26/17	1125	soil	Buena Vista Bottom	1-402		-002	X		X									X				
4/26/17	1130	soil	Buena Vist open area inside	1-402		-003	X		X									X				
4/26/17	1140	soil	Buena Vista outside fence	1-402		-004	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/26/17	1630	Morgan Killion	Chad Hoet	4/26/17	1630
4/26/17	1803	[signature]	Sophia Cyn	04/27/17	0700

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Williams Four Corners LLC	Contact Mitch Morris
Address 1755 Arroyo Drive, Bloomfield, NM 87413	Telephone No. 505-632-4708
Facility Name Kutz Canyon Gas Plant	Facility Type Natural Gas Processing Plant

Surface Owner Bureau of Land Management	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	13	28N	11W					San Juan

Latitude 36° 40.064 N **Longitude** 107° 57.795 W

NATURE OF RELEASE

Type of Release Natural Gas	Volume of Release 64.94 MCF	Volume Recovered 0
Source of Release Pressure Relief Valve (PRV)	Date and Hour of Occurrence 5/01/2017, 09:15 AM MST	Date and Hour of Discovery 5/01/2017, 09:15 AM MST
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? Not Applicable	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. Not Applicable	

OIL CONS. DIV DIST. 3
MAY 05 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Incorrect valve alignment caused a pressure exceedance releasing 64.94 MCF of natural gas to atmosphere through a pressure safety device. Pressure was normalized as quickly as possible, and the valve closed.

Describe Area Affected and Cleanup Action Taken.*

No cleanup required with a gas release.

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: Mitch Morris	Approved by Environmental Specialist:
Title: Environmental Specialist	Approval Date: 6/22/2017 Expiration Date:
E-mail Address: Mitch.Morris@williams.com	Conditions of Approval: — Attached ☐
Date: 5/02/2017 Phone: 505-632-4708	

* Attach Additional Sheets If Necessary

NVF1717355444

(1)

District I
1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210
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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

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **Williams Four Corners LLC**	Contact: **Kijun Hong**
Address: **1755 Arroyo Dr., Farmington, NM 87413**	Telephone No.: **(505) 632-4475**
Facility Name: **Reid B2E**	Facility Type: **Pipeline**

Surface Owner: **BLM**	Mineral Owner	BLM Project No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	**31**	**29N**	**10W**					**San Juan**

Latitude 36.68480 **Longitude** -107.92178

NATURE OF RELEASE

Type of Release: **Natural Gas**	Volume of Release: **53 MCF**	Volume Recovered: **0 MCF**
Source of Release: **Pipeline**	Date and Hour of Occurrence: **07/05/2017 at 8:00 AM**	Date and Hour of Discovery: **07/05/2017 at 8:00 AM**
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? **NA**	
By Whom? **NA**	Date and Hour: **NA**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Natural gas release from a pin hole leak in the pipeline discovered during a line leak survey. This section of pipe has been repaired.

Describe Area Affected and Cleanup Action Taken.*
Pipeline has been repaired and impacted area cleanup in progress.

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: **Kijun Hong**

Title: **Environmental Specialist**

E-mail Address: **kijun.hong@williams.com**

Date: **05/19/2017** Phone: **(505) 632-4475**

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 7/31/17 Expiration Date:

Conditions of Approval: TPH (DRO/MRO/GRO) Attached ☐
Btex, Benzene Sample for NA

* Attach Additional Sheets If Necessary

NCS 1721253535

OIL CONS. DIV DIST. 3

JUL 24 2017

1

District I
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State of New Mexico
Energy Minerals and Natural Resources

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

OIL CONS. DIV DIST. 3
AUG 21 2017

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

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company: **Williams Four Corners LLC**	Contact: **Kijun Hong**
Address: **1755 Arroyo Dr., Farmington, NM 87413**	Telephone No.: **(505) 632-4475**
Facility Name: **McClanahan #19**	Facility Type: **Pipeline**

Surface Owner: **BLM**	Mineral Owner	BLM Project No. **NMNM040525**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	**14**	**28N**	**10W**					**San Juan**

Latitude 36.6667 **Longitude** -107.8706

NATURE OF RELEASE

Type of Release: **Natural Gas**	Volume of Release: **49.4 MCF**	Volume Recovered: **0 MCF**
Source of Release: **Pipeline**	Date and Hour of Occurrence: **07/20/2017 at 4:30 PM**	Date and Hour of Discovery: **07/20/2017 at 4:30 PM**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Initial notification made by email to OCD and BLM due to soil yardage.**	
By Whom? **Kijun Hong**	Date and Hour: **8/4/2017 @ 12:35pm**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Natural gas released from a pin hole leak in the pipeline. The section was immediately isolated and shut-in upon discovery.

Describe Area Affected and Cleanup Action Taken.*
Initial report only assumed gas loss as there was no evidence of liquids impact. Once excavation began, soil impacts were discovered. Final haul amount of impacted soil was 50 yards on 8/4/2017. Please see attachments for further details.

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 Approved by Environmental Specialist:	
Printed Name: **Kijun Hong**		
Title: **Environmental Specialist**	Approval Date: 8/23/17	Expiration Date:
E-mail Address: **kijun.hong@williams.com**	Conditions of Approval: —	Attached ☐ —
Date: **8/17/2017** Phone: **(505) 632-4475**		

* Attach Additional Sheets If Necessary

#NCS1723538269

(11)

Remediation Excavation and Sampling Form

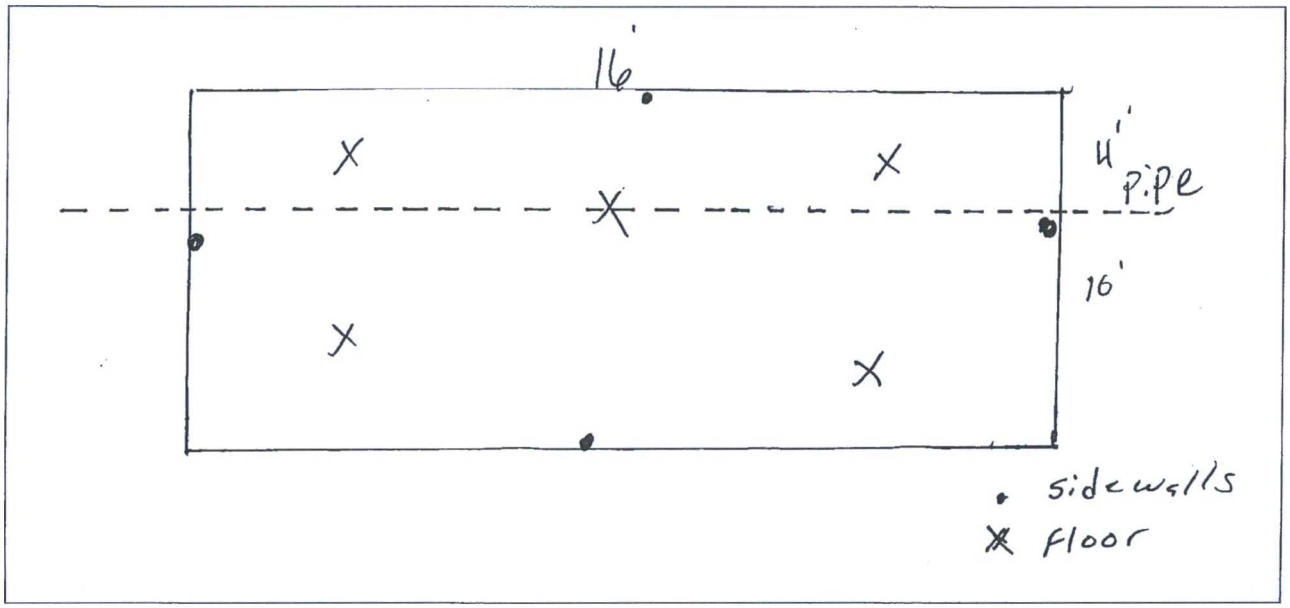
Site Name McClanahan #19

Excavation Dimensions (feet)

16' Length 10' Width 6' Depth

Excavation Diagram and Sample Locations

(Depict notable site features, excavation extents, visual observations, sample locations, north arrow, etc.)



Sample Information

OCD Witness Sampling Yes or ~~No~~

Agency(s) Representative(s) I TALK with Corey Smith He couldn't make it out But gave the go Ahead

Sample ID	Sample Date	Type (Composite, Grab)	Location (Floor, Sidewall)	Comments
McClanahan #19 Sidewall	8-7-2017	comp.	sidewalls	
McClanahan #19 Bottom	8-7-2017	comp.	Floor	

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 14, 2017

Kijun Hong
Williams Field Services
1755 Arroyo Dr.,
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Mc Clanahan #19 OrderNo.: 1708471

Dear Kijun Hong:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/8/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1708471**
Date Reported: **8/14/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Mc Clanahan #19
Lab ID: 1708471-001 **Matrix:** SOIL

Client Sample ID: McClanahan #19 Sidewall
Collection Date: 8/7/2017 9:00:00 AM
Received Date: 8/8/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	110	30		mg/Kg	20	8/10/2017 4:42:28 PM	33299
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/10/2017 5:13:07 PM	33273
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/10/2017 5:13:07 PM	33273
Surr: DNOP	91.0	70-130		%Rec	1	8/10/2017 5:13:07 PM	33273
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/9/2017 6:17:31 PM	33248
Surr: BFB	86.0	54-150		%Rec	1	8/9/2017 6:17:31 PM	33248
EPA METHOD 8021B: VOLATILES						Analyst: **AG**	
Benzene	ND	0.024		mg/Kg	1	8/9/2017 6:17:31 PM	33248
Toluene	ND	0.047		mg/Kg	1	8/9/2017 6:17:31 PM	33248
Ethylbenzene	ND	0.047		mg/Kg	1	8/9/2017 6:17:31 PM	33248
Xylenes, Total	ND	0.095		mg/Kg	1	8/9/2017 6:17:31 PM	33248
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	8/9/2017 6:17:31 PM	33248

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1708471**
Date Reported: **8/14/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Mc Clanahan #19
Lab ID: 1708471-002 **Matrix:** SOIL

Client Sample ID: McClanahan #19 Bottom
Collection Date: 8/7/2017 9:10:00 AM
Received Date: 8/8/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	8/10/2017 4:54:52 PM	33299
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/10/2017 5:35:45 PM	33273
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/10/2017 5:35:45 PM	33273
Surr: DNOP	83.5	70-130		%Rec	1	8/10/2017 5:35:45 PM	33273
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/9/2017 7:29:27 PM	33248
Surr: BFB	85.1	54-150		%Rec	1	8/9/2017 7:29:27 PM	33248
EPA METHOD 8021B: VOLATILES						Analyst: **AG**	
Benzene	ND	0.024		mg/Kg	1	8/9/2017 7:29:27 PM	33248
Toluene	ND	0.047		mg/Kg	1	8/9/2017 7:29:27 PM	33248
Ethylbenzene	ND	0.047		mg/Kg	1	8/9/2017 7:29:27 PM	33248
Xylenes, Total	ND	0.095		mg/Kg	1	8/9/2017 7:29:27 PM	33248
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	8/9/2017 7:29:27 PM	33248

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708471**

14-Aug-17

Client: Williams Field Services

Project: Mc Clanahan #19

Sample ID	**MB-33299**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID: **33299**			RunNo: **44865**				
Prep Date:	**8/10/2017**	Analysis Date: **8/10/2017**			SeqNo: **1419788**	Units: **mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33299**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID: **33299**			RunNo: **44865**				
Prep Date:	**8/10/2017**	Analysis Date: **8/10/2017**			SeqNo: **1419789**	Units: **mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708471**

14-Aug-17

Client: Williams Field Services

Project: Mc Clanahan #19

Sample ID **LCS-33273**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **33273**	RunNo: **44860**
Prep Date: **8/9/2017**	Analysis Date: **8/10/2017**	SeqNo: **1418517** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.9	73.2	114			
Surr: DNOP	4.5		5.000		89.5	70	130			

Sample ID **MB-33273**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **33273**	RunNo: **44860**
Prep Date: **8/9/2017**	Analysis Date: **8/10/2017**	SeqNo: **1418518** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		95.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708471**

14-Aug-17

Client: Williams Field Services

Project: Mc Clanahan #19

Sample ID **1708471-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **McClanahan #19 Si**	Batch ID: **33248**	RunNo: **44855**
Prep Date: **8/8/2017**	Analysis Date: **8/9/2017**	SeqNo: **1418058** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.18	0	108	77.8	128			
Surr: BFB	940		967.1		97.6	54	150			

Sample ID **1708471-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **McClanahan #19 Si**	Batch ID: **33248**	RunNo: **44855**
Prep Date: **8/8/2017**	Analysis Date: **8/9/2017**	SeqNo: **1418059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.50	0	104	77.8	128	6.42	20	
Surr: BFB	900		939.8		96.3	54	150	0	0	

Sample ID **LCS-33248**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **33248**	RunNo: **44855**
Prep Date: **8/8/2017**	Analysis Date: **8/9/2017**	SeqNo: **1418071** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.4	76.4	125			
Surr: BFB	970		1000		96.5	54	150			

Sample ID **MB-33248**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **33248**	RunNo: **44855**
Prep Date: **8/8/2017**	Analysis Date: **8/9/2017**	SeqNo: **1418072** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.8	54	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708471**

14-Aug-17

Client: Williams Field Services

Project: Mc Clanahan #19

Sample ID **LCS-33248**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **33248**	RunNo: **44855**
Prep Date: **8/8/2017**	Analysis Date: **8/9/2017**	SeqNo: **1418218** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.2	80	120			
Toluene	0.98	0.050	1.000	0	98.2	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	66.6	132			

Sample ID **MB-33248**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **33248**	RunNo: **44855**
Prep Date: **8/8/2017**	Analysis Date: **8/9/2017**	SeqNo: **1418219** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FIELD SERVI Work Order Number: 1708471 RcptNo: 1

Received By: Anne Thorne 8/8/2017 7:15:00 AM Anne Thorne
Completed By: Anne Thorne 8/8/2017 12:35:19 PM Anne Thorne
Reviewed By: 8/8/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: WFS

Mailing Address: 1755 ARROYO DR.
Bloomfield NM 87413

Phone #: 505-632-4475

email or Fax#: Kijun.Hong@williams.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: McClanahan #19

Project #:

Project Manager: KIJUN HONG

Sampler: Morgan Killion

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1708471	BTEX + ~~MTBE~~ + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride				Air Bubbles (Y or N)
8/7/17	0900	Soil	McClanahan #19 Sidewall	1-402	Cool	001	X		X									X				
8/7/17	0910	Soil	McClanahan #19 Bottom	1-402	Cool	002	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/7/17	1417	Morgan Killion		8/7/17	1617
8/7/17	1817			08/08/17	0715

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company: **Williams Four Corners LLC**	Contact: **Kijun Hong**
Address: **1755 Arroyo Dr., Farmington, NM 87413**	Telephone No.: **(505) 632-4475**
Facility Name: **Cox Canyon 6A**	Facility Type: **Pipeline**

Surface Owner: **State of NM**	Mineral Owner	BLM Project No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	**16**	**32N**	**11W**					**San Juan**

Latitude 36.9818 **Longitude** -107.9878

NATURE OF RELEASE

Type of Release: **Natural Gas and liquids**	Volume of Release: **6.71 MCF** **100 yrds soil**	Volume Recovered: **0 MCF**
Source of Release: **Pipeline**	Date and Hour of Occurrence: **03/24/2017 at 11:56 AM**	Date and Hour of Discovery: **05/02/17 at 9:20 AM**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Cory Smith**	
By Whom? **Kijun Hong**	Date and Hour: **05/02/17 at 9:20 AM**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse: **NA**	

OIL CONS. DIV DIST. 3
MAY 19 2017

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Natural gas release from a leak in the pipeline. The section was immediately isolated and shut-in upon discovery.

Describe Area Affected and Cleanup Action Taken.*
Initial report assumed gas loss and a minimal (1 gal) of liquids impact. Once excavation began, more extensive soil impacts were discovered. Final haul amount of impacted soil was 100 yards on 4/21/2017. Soil analysis show levels below remediation action levels. Please find analysis results and risk ranking documentation attached.

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 Approved by Environmental Specialist:	
Printed Name: **Kijun Hong**		
Title: **Environmental Specialist**	Approval Date: 6/12/17	Expiration Date:
E-mail Address: **kijun.hong@williams.com**	Conditions of Approval: —	Attached ☐
Date: **05/16/2017** Phone: **(505) 632-4475**		

* Attach Additional Sheets If Necessary

#NCS1716330864

3R-1013

17

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 05, 2017

Kijun Hong
Williams Field Services
1755 Arroyo Dr.,
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: COX Canyon 6A Line Leak OrderNo.: 1705216

Dear Kijun Hong:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/4/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1705216**
Date Reported: **5/5/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: COX Canyon 6A Line Leak
Lab ID: 1705216-001 **Matrix:** MEOH (SOIL)

Client Sample ID: COX Canyon 6A North West Wa
Collection Date: 5/3/2017 9:30:00 AM
Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	53	30		mg/Kg	20	5/4/2017 12:17:09 PM	31565
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	5/4/2017 1:18:34 PM	31563
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/4/2017 1:18:34 PM	31563
Surr: DNOP	86.9	70-130		%Rec	1	5/4/2017 1:18:34 PM	31563
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	150	21		mg/Kg	5	5/4/2017 11:50:23 AM	G42543
Surr: BFB	227	54-150	S	%Rec	5	5/4/2017 11:50:23 AM	G42543
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.10		mg/Kg	5	5/4/2017 11:50:23 AM	B42543
Toluene	0.46	0.21		mg/Kg	5	5/4/2017 11:50:23 AM	B42543
Ethylbenzene	0.68	0.21		mg/Kg	5	5/4/2017 11:50:23 AM	B42543
Xylenes, Total	9.2	0.42		mg/Kg	5	5/4/2017 11:50:23 AM	B42543
Surr: 4-Bromofluorobenzene	115	66.6-132		%Rec	5	5/4/2017 11:50:23 AM	B42543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1705216**
Date Reported: **5/5/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: COX Canyon 6A Line Leak
Lab ID: 1705216-002 **Matrix:** MEOH (SOIL)

Client Sample ID: COX Canyon 6A South East Wal
Collection Date: 5/3/2017 9:35:00 AM
Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	5/4/2017 12:29:34 PM	31565
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	20	9.6		mg/Kg	1	5/4/2017 1:46:08 PM	31563
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/4/2017 1:46:08 PM	31563
Surr: DNOP	87.6	70-130		%Rec	1	5/4/2017 1:46:08 PM	31563
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	11	4.6		mg/Kg	1	5/4/2017 12:13:48 PM	G42543
Surr: BFB	127	54-150		%Rec	1	5/4/2017 12:13:48 PM	G42543
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	5/4/2017 12:13:48 PM	B42543
Toluene	0.049	0.046		mg/Kg	1	5/4/2017 12:13:48 PM	B42543
Ethylbenzene	ND	0.046		mg/Kg	1	5/4/2017 12:13:48 PM	B42543
Xylenes, Total	0.82	0.091		mg/Kg	1	5/4/2017 12:13:48 PM	B42543
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	5/4/2017 12:13:48 PM	B42543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1705216**
Date Reported: **5/5/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: COX Canyon 6A Line Leak
Lab ID: 1705216-003 **Matrix:** MEOH (SOIL)

Client Sample ID: COX Canyon 6A Bottom
Collection Date: 5/3/2017 9:40:00 AM
Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	5/4/2017 1:06:48 PM	31565
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	76	9.7		mg/Kg	1	5/4/2017 2:13:52 PM	31563
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/4/2017 2:13:52 PM	31563
Surr: DNOP	83.2	70-130		%Rec	1	5/4/2017 2:13:52 PM	31563
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	280	19		mg/Kg	5	5/4/2017 12:37:17 PM	G42543
Surr: BFB	333	54-150	S	%Rec	5	5/4/2017 12:37:17 PM	G42543
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.094		mg/Kg	5	5/4/2017 12:37:17 PM	B42543
Toluene	2.2	0.19		mg/Kg	5	5/4/2017 12:37:17 PM	B42543
Ethylbenzene	1.4	0.19		mg/Kg	5	5/4/2017 12:37:17 PM	B42543
Xylenes, Total	18	0.38		mg/Kg	5	5/4/2017 12:37:17 PM	B42543
Surr: 4-Bromofluorobenzene	125	66.6-132		%Rec	5	5/4/2017 12:37:17 PM	B42543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1705216**

05-May-17

Client: Williams Field Services

Project: COX Canyon 6A Line Leak

Sample ID **MB-31565**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **31565**	RunNo: **42548**
Prep Date: **5/4/2017**	Analysis Date: **5/4/2017**	SeqNo: **1339022** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-31565**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **31565**	RunNo: **42548**
Prep Date: **5/4/2017**	Analysis Date: **5/4/2017**	SeqNo: **1339023** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1705216**

05-May-17

Client: Williams Field Services

Project: COX Canyon 6A Line Leak

Sample ID **MB-31564**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31564**	RunNo: **42525**
Prep Date: **5/4/2017**	Analysis Date: **5/4/2017**	SeqNo: **1337677** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.1		10.00		81.1	70	130			

Sample ID **LCS-31564**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31564**	RunNo: **42525**
Prep Date: **5/4/2017**	Analysis Date: **5/4/2017**	SeqNo: **1337679** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID **LCS-31563**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31563**	RunNo: **42534**
Prep Date: **5/4/2017**	Analysis Date: **5/4/2017**	SeqNo: **1337721** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	63.8	116			
Surr: DNOP	4.8		5.000		95.2	70	130			

Sample ID **MB-31563**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31563**	RunNo: **42534**
Prep Date: **5/4/2017**	Analysis Date: **5/4/2017**	SeqNo: **1337722** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1705216**

05-May-17

Client: Williams Field Services

Project: COX Canyon 6A Line Leak

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G42543**	RunNo: **42543**
Prep Date:	Analysis Date: **5/4/2017**	SeqNo: **1338389** Units: **mg/Kg**

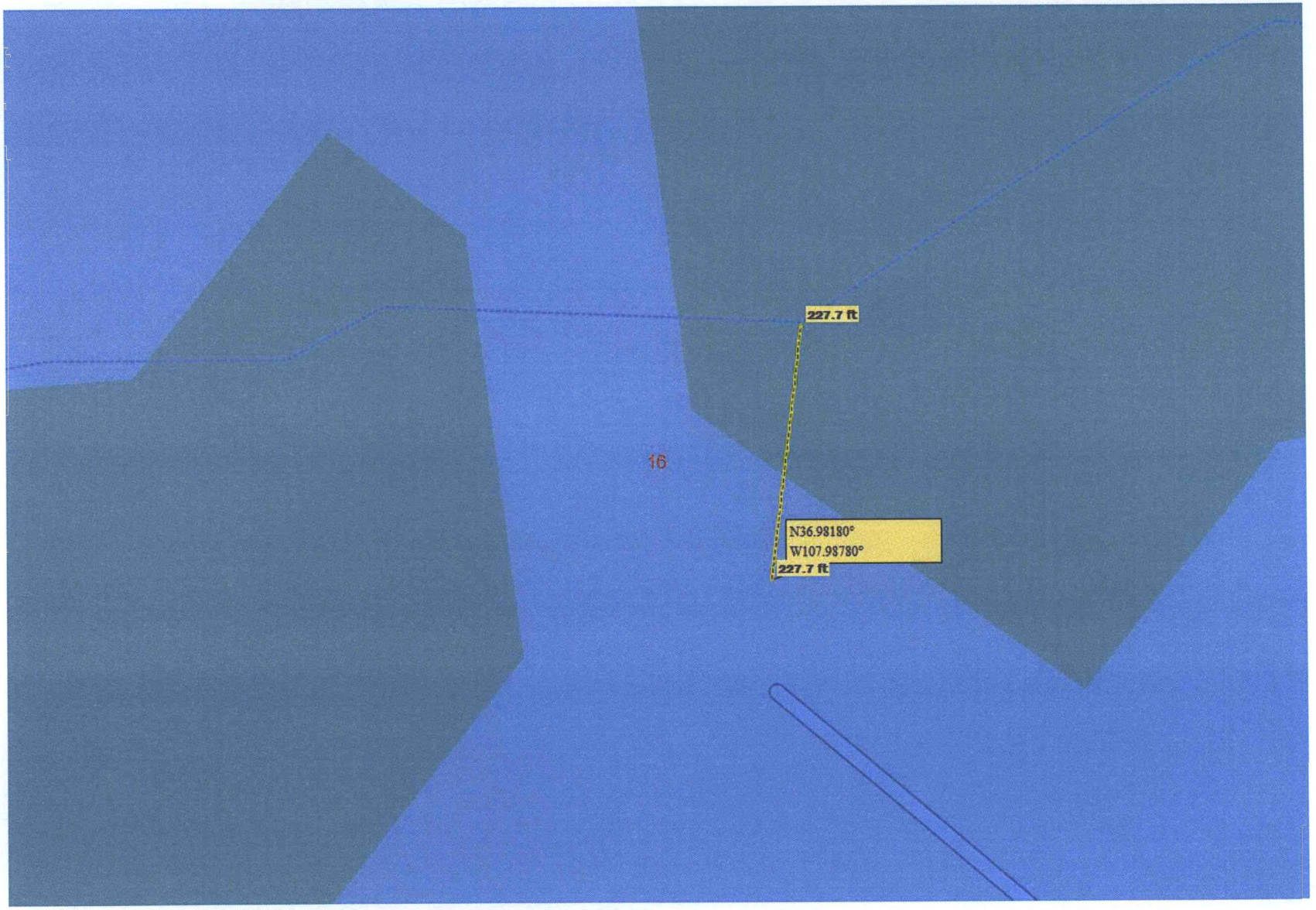
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.0	54	150			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G42543**	RunNo: **42543**
Prep Date:	Analysis Date: **5/4/2017**	SeqNo: **1338390** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.3	76.4	125			
Surr: BFB	1000		1000		101	54	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified


227.7 ft
16
N36.98180°
W107.98780°
227.7 ft

OIL CONS. DIV DIST. 3

AUG 07 2017

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

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Williams Four Corners LLC	Contact: Monica Sandoval
Address: 1755 Arroyo Drive, Bloomfield, NM 87413	Telephone No.: (505) 632-4625
Facility Name: SJ 32-7 26M Line Leak	Facility Type: Pipeline

Surface Owner: BLM	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	35	32N	7W					San Juan

Latitude N3655.9606 **Longitude** W10731.8049

NATURE OF RELEASE

Type of Release: Natural Gas	Volume of Release: 113.20305mcf	Volume Recovered: 0
Source of Release: Pipeline leak	Date and Hour of Occurrence: 2/1//2017	Date and Hour of Discovery: 2/1/2017
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? Notified NMOCD Cory Smith, upon discovery 2/20/2017 Sent follow up email to Cory on 2/21/2017	
By Whom? Monica Sandoval	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

Describe Cause of Problem and Remedial Action Taken.*

Pipeline leak discovered on 2/1/2017. Repairs to leak made on 2/8/2017. Environmental Department was not notified unit 2/20/2017 of leak. Upon follow up it was determined that repairs had already been completed. Immediate notification was made to NMOCD Cory Smith.

~~Describe Area Affected and Cleanup Action Taken.*~~

Excavation was too wet to sample. Excavation blocked well site location access so was backfilled and flagged for sampling at a later date. Soil sample collected on 4/19/2017, sample collected was a composite based on NMOCD Conditions of Approval, Cory Smith was present. 3 compsoite samples were taken.

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.

Monica Sandoval Signature:	OIL CONSERVATION DIVISION Approved by Environmental Specialist:
Printed Name: Monica Sandoval	
Title: Environmental Specialist	Approval Date: 8/29/17 Expiration Date:
E-mail Address: monica.sandoval@williams.com	Conditions of Approval: — Attached ☐
Date: 8/1/2017 Phone: (505) 632-4625	

* Attach Additional Sheets If Necessary

#NCS1708629353

15

Remediation Excavation and Sampling Form

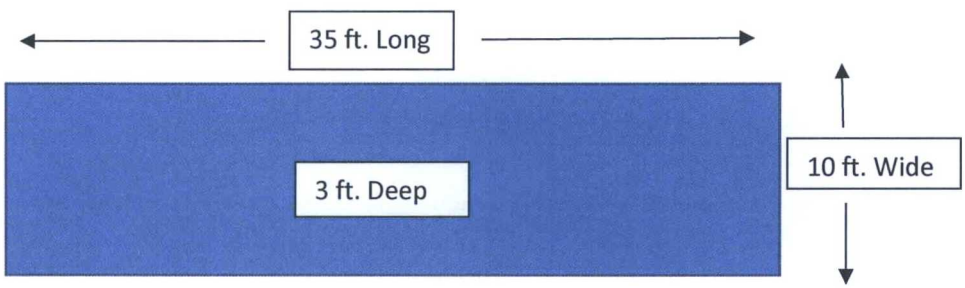
Site Name: SJ 32-7 26M (Lat. N36 55.9606 Long. W107 31.8049)

Excavation Dimensions (feet): 35 ft. Long x 10 ft. Wide x 3 ft. deep

Excavation Diagram and Sample Locations:
(Depict notable site features, excavation extents, visual observations, sample locations, north arrow, etc.)

Site was open 2/8/2017, excavated line at leak flag, found leak, cut out bad pipe, build new 4" riser, welded in approx. 21' 4" tested pipe and riser, taped welds and jeeps, rock shielded line, bagged and backfilled. Site was back filled due to snow run off filing the excavation and the soil was too wet to sample.

On 4/18/2017 dig out of leak area and sampling took place at the request of OCD with Cory Smith present.

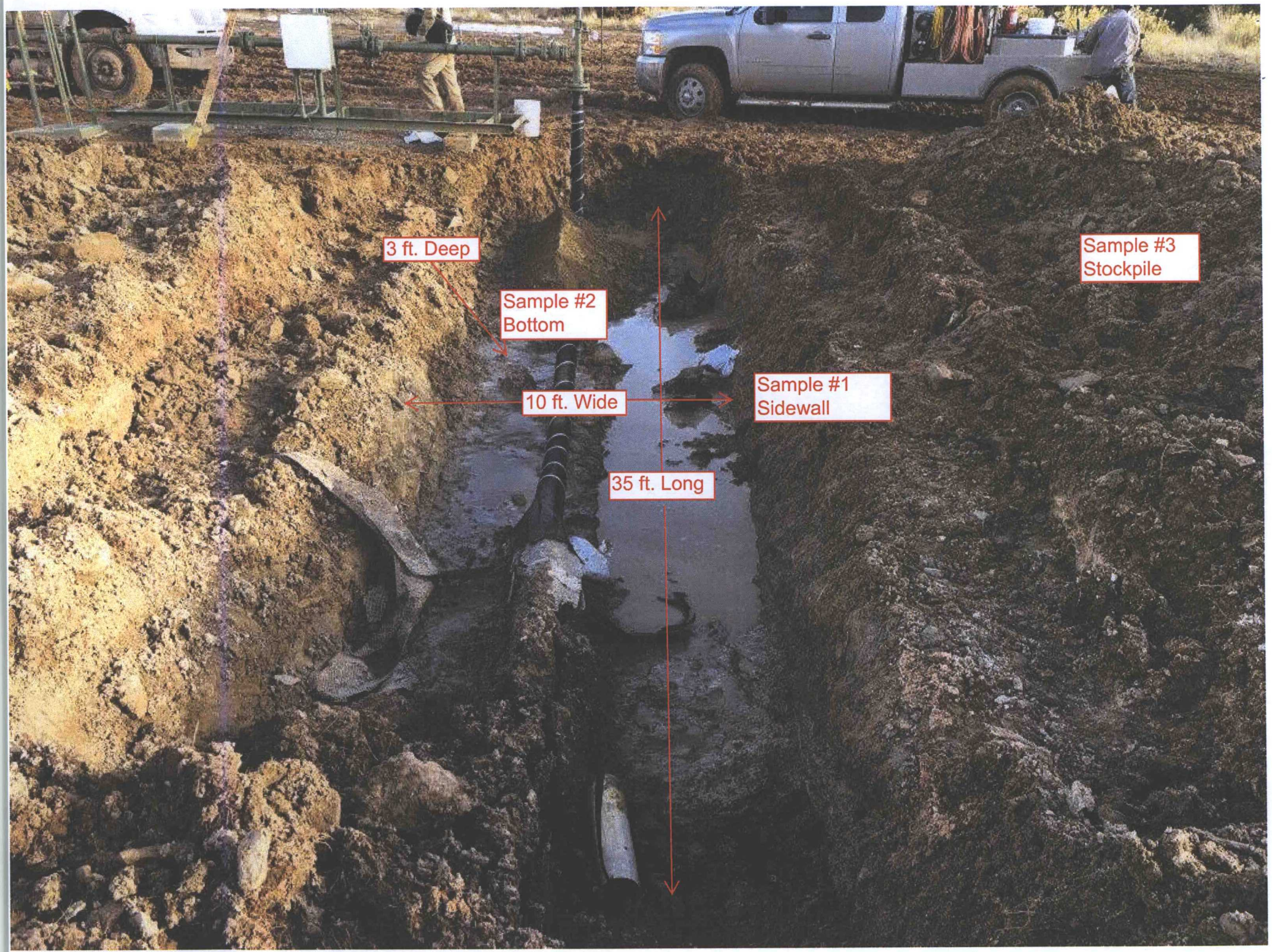


Attached sample results include a sidewall composite, bottom composite and stockpile.

Sample Information

OCD Witness Sampling: Yes or No
Agency(s) Representative(s): Cory Smith

Sample ID	Sample Date	Type (Composite, Grab)	Location (Floor, Sidewall)	Comments
1704824-001	4/18/2017	Composite	Sidewall	
1704824-002	4/18/2017	Composite	Bottom	


3 ft. Deep
Sample #2
Bottom
Sample #3
Stockpile
Sample #1
Sidewall
10 ft. Wide
35 ft. Long

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2017

Monica Sandoval
Williams Field Services
1755 Arroyo Dr.,
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: SJ 32-7 26 M Line Leak OrderNo.: 1704824

Dear Monica Sandoval:

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/19/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704824**

24-Apr-17

Client: Williams Field Services

Project: SJ 32-7 26 M Line Leak

Sample ID **MB-31360**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31360**	RunNo: **42274**
Prep Date: **4/21/2017**	Analysis Date: **4/21/2017**	SeqNo: **1328407** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		89.0	70	130			

Sample ID **LCS-31360**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31360**	RunNo: **42274**
Prep Date: **4/21/2017**	Analysis Date: **4/21/2017**	SeqNo: **1328408** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.6	70	130			

Sample ID **MB-31338**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31338**	RunNo: **42274**
Prep Date: **4/20/2017**	Analysis Date: **4/21/2017**	SeqNo: **1329503** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		84.2	70	130			

Sample ID **LCS-31338**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31338**	RunNo: **42274**
Prep Date: **4/20/2017**	Analysis Date: **4/21/2017**	SeqNo: **1329504** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.7	63.8	116			
Surr: DNOP	4.4		5.000		87.5	70	130			

Sample ID **1704824-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SJ 32-7 26 M Sidew**	Batch ID: **31338**	RunNo: **42274**
Prep Date: **4/20/2017**	Analysis Date: **4/21/2017**	SeqNo: **1329516** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.2	45.96	0	88.7	51.6	130			
Surr: DNOP	4.1		4.596		89.5	70	130			

Sample ID **1704824-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SJ 32-7 26 M Sidew**	Batch ID: **31338**	RunNo: **42274**
Prep Date: **4/20/2017**	Analysis Date: **4/21/2017**	SeqNo: **1329517** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.05	0	89.6	51.6	130	9.53	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

Client: WFS

Mailing Address: 188 CR 4900
Bloomfield Nm 87413

Phone #: 505-947-1852

email or Fax#: Monica.sandoval@williams

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation) COA

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: SJ 32-7 #26M Line Leak

Project #:

Project Manager: Monica Sandoval

Sampler: Morgan Killion

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1704824	BTEX + ~~MTBE~~ + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride				Air Bubbles (Y or N)
4/18/17	11:10	soil	SJ 32-7 #26M sidewall comp.	1-402	Cool	-001	X		X									X				
4/18/17	11:15	soil	SJ 32-7 #26M Bottom comp.	1-402	"	-002	X		X									X				
4/18/17	11:20	soil	SJ 32-7 #26M Sidewall comp.	1-402	"	-003	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/18/17	1710	Morgan Killion	Chris Watt	4/18/17	1710
4/18/17	1820	Chris Watt		04/19/17	0446

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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State of New Mexico
Energy Minerals and Natural Resources

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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

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Williams Four Corners LLC	Contact Michael Hannan
Address 1755 Arroyo Drive	Telephone No. 505-632-4807
Facility Name Trunk S/Trunk D/Lateral F-16	Facility Type Pipeline

Surface Owner Private	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	13	29N	6W					San Juan

Latitude 36.72028° N **Longitude** -107.41937° W

NATURE OF RELEASE

Type of Release Petroleum Hydrocarbons	Volume of Release unknown	Volume Recovered 562 cubic yards of impacted soil
Source of Release Historical Operations	Date and Hour of Occurrence Unknown	Date and Hour of Discovery June 27, 2017
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Cory Smith (NMOCD) Vanessa Fields (NMOCD)	OIL CONS. DIV DIST. 3 JUL 17 2017
By Whom? Michael Hannan	Date and Hour 6/29/17 08:42 (Cory VM) 6/29/17 08:43 (Vanessa VM)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. Not Applicable	

If a Watercourse was Impacted, Describe Fully.*

Not Applicable

Describe Cause of Problem and Remedial Action Taken.*

Williams discovered, during a right of way survey, an area impacted by historical operations. Remediation was undertaken from June 27, 2017 through July 10, 2017, and 562 cubic yards of impacted soil have been removed from the site and taken to a NMOCD approved land farm. Immediate NMOCD notification was made once it became apparent that greater than 60 cubic yards of soil would be sent for disposal.

Describe Area Affected and Cleanup Action Taken.*

A cleanup crew was mobilized to the site for remediation. Remediation has been temporarily halted because the further excavation would cause safety issues by being too close to in service pipelines. The excavation has been fenced off in coordination with the property owner. Williams plans to resume remediation activities when the pipelines can be taken out of service during the next annual shutdown, which is tentatively scheduled to occur around April/May 2018.

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: Michael Hannan	Approved by Environmental Specialist:
Title: Engineer, Sr.	Approval Date: 8/29/17 Expiration Date:
E-mail Address: michael.hannan@williams.com	Conditions of Approval: Sample For TPH (DRO-GRO-MRO/ORO) Attached ☒ Email 3 Directive.
Date: 7/13/2017 Phone: 505-632-4807	

* Attach Additional Sheets If Necessary

#NCS1724152886 Btex, Chlorides

3RP-1613

(5)

Smith, Cory, EMNRD

From: Fields, Vanessa, EMNRD
Sent: Tuesday, August 29, 2017 1:17 PM
To: Smith, Cory, EMNRD; Hannan, Michael
Cc: Powell, Brandon, EMNRD; Webre, Matt
Subject: RE: Williams Final C-141 Issues

Mike,

Please submit your plan by September 5,2017. I did not account for the holiday weekend.

Thank you,

Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 119
Cell: (505) 419-0463
vanessa.fields@state.nm.us

From: Smith, Cory, EMNRD
Sent: Tuesday, August 22, 2017 10:57 AM
To: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Hannan, Michael <Michael.Hannan@Williams.com>
Cc: Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; Webre, Matt <Matt.Webre@Williams.com>
Subject: RE: Williams Final C-141 Issues

Mike,

Just following up on our phone call, Please see Vanessa email below in regards to submitting the Delineation report and proposed corrective action on September 2, 2017. If you have any questions in regards to the email please give her a call. As for the Tank Battery just the SE of the 29-6 Compressor station, could you please send me the historic sampling results and the new sampling results that were collected earlier this month when you receive them?

Thanks.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Fields, Vanessa, EMNRD
Sent: Wednesday, August 2, 2017 8:27 AM
To: Hannan, Michael <Michael.Hannan@Williams.com>
Cc: Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Webre, Matt <Matt.Webre@Williams.com>
Subject: RE: Williams Final C-141 Issues

Good morning Mike,

The OCD request as this time that Williams perform additional delineation and/or remediation both vertically and horizontally on the Trunk S/Trunk D/lateral F open excavation. If Williams chooses, an active in-situ remediation could be an alternative option. Please note if Williams requests to leave the contamination in place the excavation will be required to be lined filled and re-excavated to eliminate any potential head driving the contamination deeper.

Please submit a delineation report and corrective action plan to the OCD by September 2, 2017.

Please let me know if you have any additional questions.

Thank you,
Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 119
Cell: (505) 419-0463
vanessa.fields@state.nm.us

From: Hannan, Michael [mailto:Michael.Hannan@Williams.com]
Sent: Tuesday, August 1, 2017 3:36 PM
To: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Webre, Matt <Matt.Webre@Williams.com>
Subject: RE: Williams Final C-141 Issues

Hi Vanessa,

Based on conversations I had with Cory last Friday (7/28) and you yesterday (7/31) and today (8/1), my understanding of what information OCD is seeking on the Trunk S/Trunk D/Lateral F-16 site is as follows:

1. Begin performing additional vertical excavation in the pit based on high BTEX results in the bottom sample (approx. 100 mg/kg).
2. Justify delaying further excavation near the pipelines until the next planned outage in May 2018.
3. Delineate the extent of contamination at the site.
4. Install ramps in the excavation (is possible please provide more specificity on this item).

Please let me know as soon as you can if my understanding is correct, as I have a meeting with our Operations and COMS folks tomorrow morning to review the requirements for this site and develop a path forward. Sorry for the last minute request.

Thanks,

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 7/17/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number NCS1724152864 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before N/A. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

OIL CONS. DIV DIST. 3

AUG 07 2017

District I
1625 N. French Dr., Hobbs, NM 88240
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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

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Williams Four Corners LLC	Contact Monica Sandoval
Address 1755 Arroyo Drive, Bloomfield, NM 87413	Telephone No. 505-632-4625
Facility Name 32-8 #2	Facility Type Compressor Station

Surface Owner Private	Mineral Owner NA	API No. NA

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	27	32N	8W					San Juan

Latitude 36.956845 **Longitude** -107.663938

NATURE OF RELEASE

Type of Release Lube Oil	Volume of Release 500 gallons	Volume Recovered 0 gallons
Source of Release Tank Sight Glass	Date and Hour of Occurrence 08/01/2016, 08:00 AM	Date and Hour of Discovery 08/01/2016, 08:00 AM
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.*

Describe Cause of Problem and Remedial Action Taken.*
A sight glass broke on a bulk lube oil storage tank. The lube oil was contained within the secondary containment area. The containment is unlined. The initial reported release volume was reported to be below 5 bbls. An investigation was performed by LT Environmental on August 18, 2016. Following completion of the investigation, it was determined that the volume of lube oil released was approximately 500 gallons. The cause of the sight glass break is unknown.

Describe Area Affected and Cleanup Action Taken.*
(Initial Findings) The attached figure documents the extent of the visible lube oil impacts during completion of the investigation. Seven hand auger borings (HA-1 through HA-7) were completed to evaluate the extent of impacts. It appears that heavy precipitation events following the release may have contributed to further migration of visible lube oil impacts within containment. The hand auger borings indicated the presence of a clay layer 19-inches below the containment floor that was non-impacted (impacts observed in soils above 19-inches). Remediation activities will be completed in the future to remove impacted soils from the containment. Confirmation soil samples from the excavation floor and sidewalls will be collected to demonstrate cleanup concentrations are achieved.

8/2/2017 update:

Clean up work began on 6/26/2017. Sampling took place on 6/7/2017 prior to the work beginning. Sampled again on 6/30/2017 after the tanks had been removed; no one from OCD was present for sampling. Contaminated soil was approximately 600 yards removed.
Job Scope: Removed contaminated soil, disconnect and removed 2- 165 bbl below grade tanks, removed impacted soil, set 2 – new 165 bbl double wall double bottom tanks. Disconnected and moved the 300 bbl produced water and lube oil tanks to clean impacted soil. Set pre sprayed mat and re-set and connected tanks. Additional work to take place weather dependent, spray liner over berms, tie into mats and pits and set stairs.

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: MonicaSandoval	OIL CONSERVATION DIVISION

#DCS1724148311

27

Printed Name: Monica Sandoval	Approved by Environmental Specialist:	
Title: Environmental Specialist	Approval Date: 8/29/17	Expiration Date:
E-mail Address: monica.sandoval@williams.com	Conditions of Approval: —	Attached ☐ —
Date: 8/2/2017 Phone: 505-632-4625		

* Attach Additional Sheets If Necessary

Remediation Excavation and Sampling Form

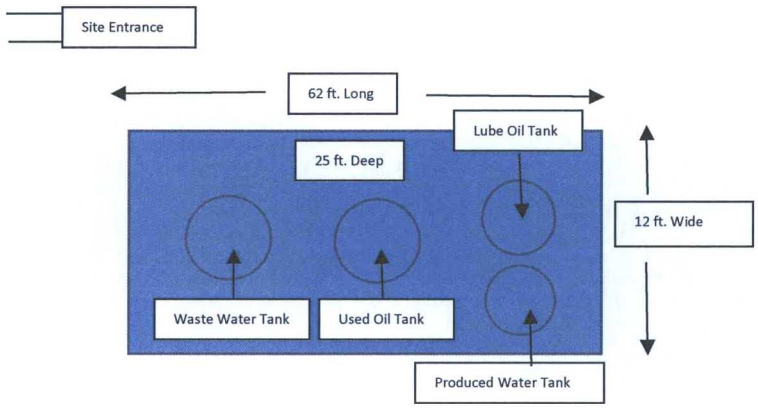
Site Name: 32-8#2 CDP (Lat. 36.956845 Long. -107.663938)

Excavation Dimensions (feet): 62 ft. Length x 12 ft. Wide x 25 ft. Deep

Excavation Diagram and Sample Locations

(Depict notable site features, excavation extents, visual observations, sample locations, north arrow, etc.)

Clean up work began on 6/26/2017. Sampling took place on 6/7/2017 prior to the work beginning. Sampled again on 6/30/2017 after the tanks had been removed; no one from OCD was present for sampling. Contaminated soil was approximately 600 yards removed. Job Scope: Removed contaminated soil, disconnect and removed 2- 165 bbl below grade tanks, removed impacted soil, set 2 – new 165 bbl double wall double bottom tanks. Disconnected and moved the 300 bbl produced water and lube oil tanks to clean impacted soil. Set pre sprayed mat and re-set and connected tanks. Additional work to take place weather dependent, spray liner over berms, tie into mats and pits and set stairs.



Sample Information

OCD Witness Sampling Yes or No

Agency(s) Representative(s) _____

Sample ID	Sample Date	Type (Composite, Grab)	Location (Floor, Sidewall)	Comments
1706446-001	6/8/2017	Composite		
1707001-001	6/30/2017	Composite	Bottom	Waste Water Tank
1707001-002	6/30/2017	Composite	Bottom	Used Oil Tank
1707001-003	6/30/2017	Composite	Bottom	Lube Oil Tank
1707001-004	6/30/2017	Composite	South East Wall	Lube Oil Tank
1707001-005	6/30/2017	Composite	South West Wall	Lube Oil Tank

1707001-006	6/30/2017	Composite	North East Wall	Lube Oil Tank


6/8/2017
Sample 1706446-001
Composite

Chain-of-Custody Record

Client: WFS

Mailing Address: 188 CR4900
Bloomfield Nm 87413

Phone #: 505-947-1852

email or Fax#: Monica.Sandoval@williams.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
SJ32-8#2 COP

Project #:

Project Manager:
Monica Sandoval

Sampler: Morgan Killion

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

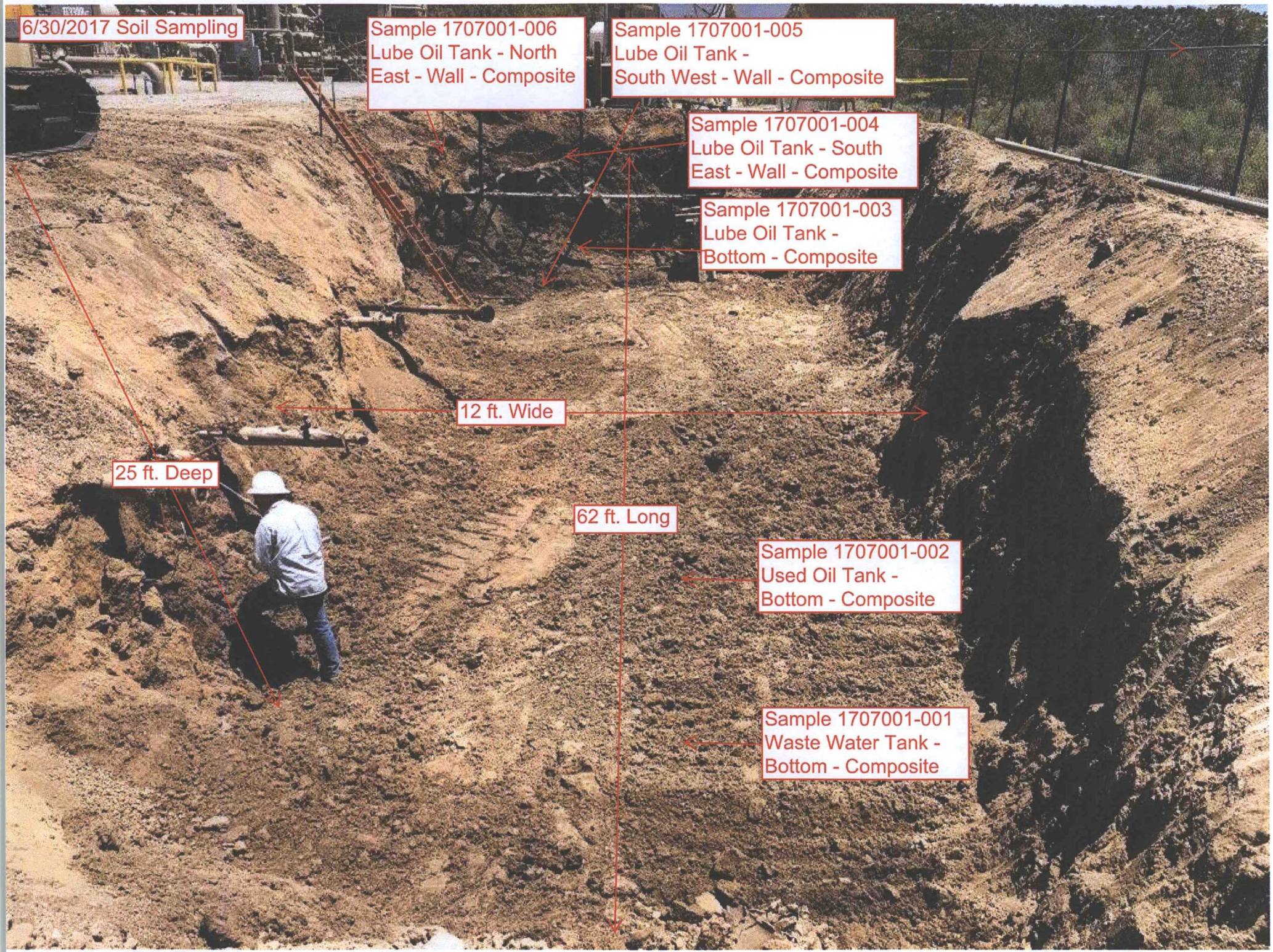
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706446	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6/7/17	4:00	Soil	SJ32-8#2 COP	1-802	Cool	001							X									

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/7/17	1615	Morgan Killion		6/7/17	1615
6/7/17	1852	Christine Walker		06/08/17	0715

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.


6/30/2017 Soil Sampling
Sample 1707001-006
Lube Oil Tank - North
East - Wall - Composite
Sample 1707001-005
Lube Oil Tank -
South West - Wall - Composite
Sample 1707001-004
Lube Oil Tank - South
East - Wall - Composite
Sample 1707001-003
Lube Oil Tank -
Bottom - Composite
12 ft. Wide
25 ft. Deep
62 ft. Long
Sample 1707001-002
Used Oil Tank -
Bottom - Composite
Sample 1707001-001
Waste Water Tank -
Bottom - Composite

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 07, 2017

Monica Sandoval
Williams Field Services
1755 Arroyo Dr.,
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Lube Oil Tank Spill OrderNo.: 1707001

Dear Monica Sandoval:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1707001**
Date Reported: **7/7/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Lube Oil Tank Spill
Lab ID: 1707001-001 **Matrix:** SOIL

Client Sample ID: WWT-B-C
Collection Date: 6/30/2017 8:35:00 AM
Received Date: 7/1/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	7/3/2017 11:40:38 AM	32612
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	9.5	9.1		mg/Kg	1	7/1/2017 11:54:40 AM	32598
Motor Oil Range Organics (MRO)	380	46		mg/Kg	1	7/1/2017 11:54:40 AM	32598
Surr: DNOP	92.0	70-130		%Rec	1	7/1/2017 11:54:40 AM	32598
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.1		mg/Kg	1	7/3/2017 10:35:58 AM	32585
Surr: BFB	96.6	54-150		%Rec	1	7/3/2017 10:35:58 AM	32585
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/3/2017 10:35:58 AM	32585
Toluene	ND	0.051		mg/Kg	1	7/3/2017 10:35:58 AM	32585
Ethylbenzene	ND	0.051		mg/Kg	1	7/3/2017 10:35:58 AM	32585
Xylenes, Total	ND	0.10		mg/Kg	1	7/3/2017 10:35:58 AM	32585
Surr: 4-Bromofluorobenzene	127	66.6-132		%Rec	1	7/3/2017 10:35:58 AM	32585

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Lube Oil Tank Spill
Lab ID: 1707001-002 **Matrix:** SOIL

Client Sample ID: VOT-B-C
Collection Date: 6/30/2017 8:45:00 AM
Received Date: 7/1/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	7/3/2017 11:53:02 AM	32612
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/1/2017 12:08:47 PM	32598
Motor Oil Range Organics (MRO)	510	47		mg/Kg	1	7/1/2017 12:08:47 PM	32598
Surr: DNOP	92.6	70-130		%Rec	1	7/1/2017 12:08:47 PM	32598
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	20		mg/Kg	5	7/3/2017 10:59:51 AM	32585
Surr: BFB	89.8	54-150		%Rec	5	7/3/2017 10:59:51 AM	32585
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.098		mg/Kg	5	7/3/2017 10:59:51 AM	32585
Toluene	ND	0.20		mg/Kg	5	7/3/2017 10:59:51 AM	32585
Ethylbenzene	ND	0.20		mg/Kg	5	7/3/2017 10:59:51 AM	32585
Xylenes, Total	ND	0.39		mg/Kg	5	7/3/2017 10:59:51 AM	32585
Surr: 4-Bromofluorobenzene	119	66.6-132		%Rec	5	7/3/2017 10:59:51 AM	32585

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Lube Oil Tank Spill
Lab ID: 1707001-003 **Matrix:** SOIL

Client Sample ID: LOT-B-C
Collection Date: 6/30/2017 8:50:00 AM
Received Date: 7/1/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	7/3/2017 12:05:27 PM	32612
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/1/2017 1:37:09 PM	32598
Motor Oil Range Organics (MRO)	71	48		mg/Kg	1	7/1/2017 1:37:09 PM	32598
Surr: DNOP	93.0	70-130		%Rec	1	7/1/2017 1:37:09 PM	32598
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	7/3/2017 11:23:47 AM	32585
Surr: BFB	93.2	54-150		%Rec	1	7/3/2017 11:23:47 AM	32585
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	7/3/2017 11:23:47 AM	32585
Toluene	ND	0.039		mg/Kg	1	7/3/2017 11:23:47 AM	32585
Ethylbenzene	ND	0.039		mg/Kg	1	7/3/2017 11:23:47 AM	32585
Xylenes, Total	ND	0.078		mg/Kg	1	7/3/2017 11:23:47 AM	32585
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	1	7/3/2017 11:23:47 AM	32585

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Lube Oil Tank Spill
Lab ID: 1707001-004 **Matrix:** SOIL

Client Sample ID: LOT-SE-W-C
Collection Date: 6/30/2017 9:00:00 AM
Received Date: 7/1/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	7/3/2017 12:17:52 PM	32612
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/1/2017 12:11:12 PM	32598
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2017 12:11:12 PM	32598
Surr: DNOP	105	70-130		%Rec	1	7/1/2017 12:11:12 PM	32598
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	7/3/2017 11:47:42 AM	32585
Surr: BFB	96.7	54-150		%Rec	1	7/3/2017 11:47:42 AM	32585
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	7/3/2017 11:47:42 AM	32585
Toluene	ND	0.043		mg/Kg	1	7/3/2017 11:47:42 AM	32585
Ethylbenzene	ND	0.043		mg/Kg	1	7/3/2017 11:47:42 AM	32585
Xylenes, Total	ND	0.085		mg/Kg	1	7/3/2017 11:47:42 AM	32585
Surr: 4-Bromofluorobenzene	126	66.6-132		%Rec	1	7/3/2017 11:47:42 AM	32585

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Lube Oil Tank Spill
Lab ID: 1707001-005 **Matrix:** SOIL

Client Sample ID: LOT-SW-W-C
Collection Date: 6/30/2017 9:10:00 AM
Received Date: 7/1/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	7/3/2017 12:30:16 PM	32612
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/1/2017 12:35:54 PM	32598
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2017 12:35:54 PM	32598
Surr: DNOP	100	70-130		%Rec	1	7/1/2017 12:35:54 PM	32598
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	7/3/2017 12:11:39 PM	32585
Surr: BFB	92.9	54-150		%Rec	1	7/3/2017 12:11:39 PM	32585
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	7/3/2017 12:11:39 PM	32585
Toluene	ND	0.038		mg/Kg	1	7/3/2017 12:11:39 PM	32585
Ethylbenzene	ND	0.038		mg/Kg	1	7/3/2017 12:11:39 PM	32585
Xylenes, Total	ND	0.077		mg/Kg	1	7/3/2017 12:11:39 PM	32585
Surr: 4-Bromofluorobenzene	121	66.6-132		%Rec	1	7/3/2017 12:11:39 PM	32585

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services
Project: Lube Oil Tank Spill
Lab ID: 1707001-006 **Matrix:** SOIL

Client Sample ID: LOT-NE-W-C
Collection Date: 6/30/2017 9:18:00 AM
Received Date: 7/1/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	7/3/2017 12:42:40 PM	32612
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/1/2017 12:50:41 PM	32598
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/1/2017 12:50:41 PM	32598
Surr: DNOP	88.8	70-130		%Rec	1	7/1/2017 12:50:41 PM	32598
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	7/3/2017 12:35:35 PM	32585
Surr: BFB	95.3	54-150		%Rec	1	7/3/2017 12:35:35 PM	32585
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	7/3/2017 12:35:35 PM	32585
Toluene	ND	0.040		mg/Kg	1	7/3/2017 12:35:35 PM	32585
Ethylbenzene	ND	0.040		mg/Kg	1	7/3/2017 12:35:35 PM	32585
Xylenes, Total	ND	0.080		mg/Kg	1	7/3/2017 12:35:35 PM	32585
Surr: 4-Bromofluorobenzene	125	66.6-132		%Rec	1	7/3/2017 12:35:35 PM	32585

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707001**

07-Jul-17

Client: Williams Field Services

Project: Lube Oil Tank Spill

Sample ID	**MB-32612**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**32612**	RunNo:	**43973**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/3/2017**	SeqNo:	**1387098**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-32612**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**32612**	RunNo:	**43973**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/3/2017**	SeqNo:	**1387100**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707001**

07-Jul-17

Client: Williams Field Services

Project: Lube Oil Tank Spill

Sample ID **MB-32598**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **32598**	RunNo: **43947**
Prep Date: **7/1/2017**	Analysis Date: **7/1/2017**	SeqNo: **1385465** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		110	70	130			

Sample ID **LCS-32598**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **32598**	RunNo: **43947**
Prep Date: **7/1/2017**	Analysis Date: **7/1/2017**	SeqNo: **1385466** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.1	73.2	114			
Surr: DNOP	5.1		5.000		103	70	130			

Sample ID **1707001-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WWT-B-C**	Batch ID: **32598**	RunNo: **43949**
Prep Date: **7/1/2017**	Analysis Date: **7/1/2017**	SeqNo: **1385557** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	9.5	47.30	9.541	60.6	55.8	122			
Surr: DNOP	4.5		4.730		96.0	70	130			

Sample ID **1707001-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WWT-B-C**	Batch ID: **32598**	RunNo: **43949**
Prep Date: **7/1/2017**	Analysis Date: **7/1/2017**	SeqNo: **1385558** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	9.7	48.26	9.541	57.5	55.8	122	2.50	20	
Surr: DNOP	4.7		4.826		96.4	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FIELD SERVI Work Order Number: 1707001 RcptNo: 1

Received By: Andy Freeman 7/1/2017 10:30:00 AM

Completed By: Erin Melendrez 7/1/2017 10:37:27 AM

Reviewed By: 07/01/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? ____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: ____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Yes			

Chain-of-Custody Record

Client: Williams Field Service

Mailing Address: 1755 Arroyo Drive
Bloomfield New Mexico 87413

Phone #: 505-632-4625

email or Fax#: monica.sandoval@williams

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush overnight

Project Name: Lube Oil Tank spill

Project #: nw016298652

Project Manager: Monica Sandoval

Sampler: Mike Stahle

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.8°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

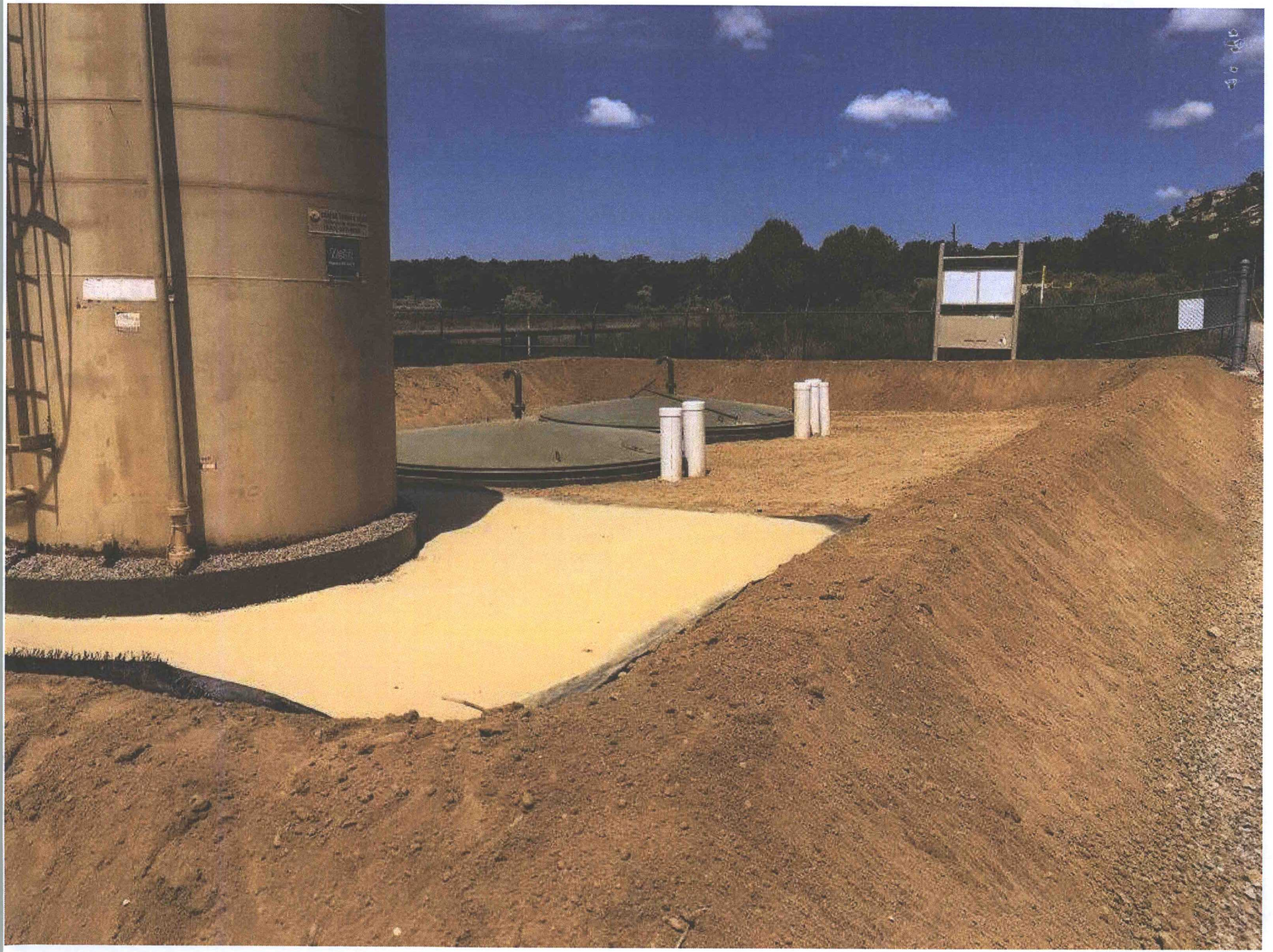
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1707001	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride				Air Bubbles (Y or N)
6-30-17	0835	soil	WWT-B-C	4 oz	ice	-001	X		X									X				
6-30-17	0845	soil	UOT-B-C	4 oz	ice	-002	X		X									X				
6-30-17	0850	soil	LOT-B-C	4 oz	ice	-003	X		X									X				
6-30-17	0900	soil	LOT-SE-W-C	4 oz	ice	-004	X		X									X				
6-30-17	0910	soil	LOT-SW-W-C	4 oz	ice	-005	X		X									X				
6-30-17	0918	soil	LOT-NE-W-C	4 oz	ice	-006	X		X									X				

Date	Time	Relinquished by	Received by	Date	Time
6/30/17	1505	Mike Stahle	Chet Walt	6/30/17	1505
6/30/17	1818	Christa Waele		7/1/17	1030

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.


LUBE OIL
PRODUCED WATER



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

OIL CONS. DIV DIST. 3
AUG 07 2017

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

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Williams Four Corners LLC	Contact: Monica Sandoval
Address: 1755 Arroyo Drive, Bloomfield, NM 87413	Telephone No.: (505) 632-4625
Facility Name: N 37 Line Leak	Facility Type: Pipeline

Surface Owner: BLM	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	9	31N	6W					San Juan

Latitude N36.9188 **Longitude** W-107.4772

NATURE OF RELEASE

Type of Release: Natural Gas	Volume of Release: 549.6 mcf	Volume Recovered: 0
Source of Release: Pipeline leak	Date and Hour of Occurrence: 3/7/2017	Date and Hour of Discovery: 3/7/2017
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? 3/8/2017 4:10 pm Voicemail left with Cory Smith 3/8/2017 4:20pm spoke with Whitney Thomas	
By Whom? Monica Sandoval	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

Describe Cause of Problem and Remedial Action Taken.*
On 3/7/2017 operations personnel discovered leak, stopped leak and blocked in gas, until repairs could be made. Excavation and repairs on 3/8/2017. Gas loss 549.6 mcf.

Describe Area Affected and Cleanup Action Taken.* Repairs on 3/8/2017, soil sample pulled on 3/9/2017 results came back clean on 4/4/2017. Area was then back filled with excavated soil based on sample results.

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: MonicaSandoval	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: Monica Sandoval		
Title: Environmental Specialist	Approval Date: 8/29/17	Expiration Date:
E-mail Address: monica.sandoval@williams.com	Conditions of Approval: —	Attached ☐ —
Date: 8/1/2017 Phone: (505) 632-4625		

* Attach Additional Sheets If Necessary

#NUF1708927967

(12)

Remediation Excavation and Sampling Form

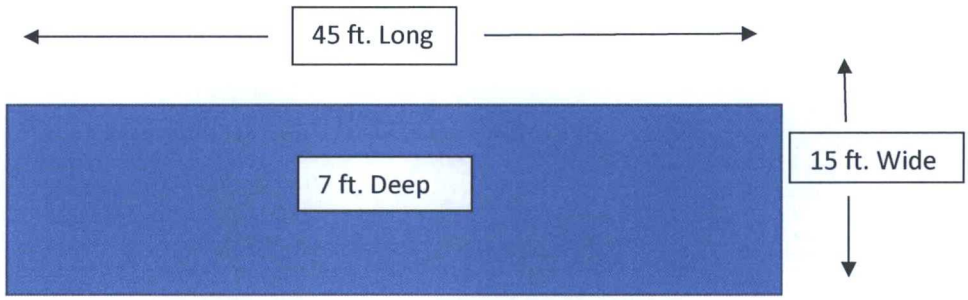
Site Name: Lateral N-37 (Lat. N36 55.1286 Long. W107 28.6340)

Excavation Dimensions (feet): 45 ft. Long x 15 ft. Wide x 7 ft. deep

Excavation Diagram and Sample Locations:

(Depict notable site features, excavation extents, visual observations, sample locations, north arrow, etc.)

Work started and completed on 3/8/2017. Excavated line at leak flag, found leak, cut out bad pipe, replaced with new tested 6" pipe, x-rayed 2 welds, taped welds, bagged line. Covered line with pad dirt, sampled soil. 1 composite of side wall and 1 composite of bottom, sent off for analysis. Backfilled and hauled off old pipe. OCD was unavailable to witness sampling. Backfilled excavation upon clear sample results with orginial excavated soil.



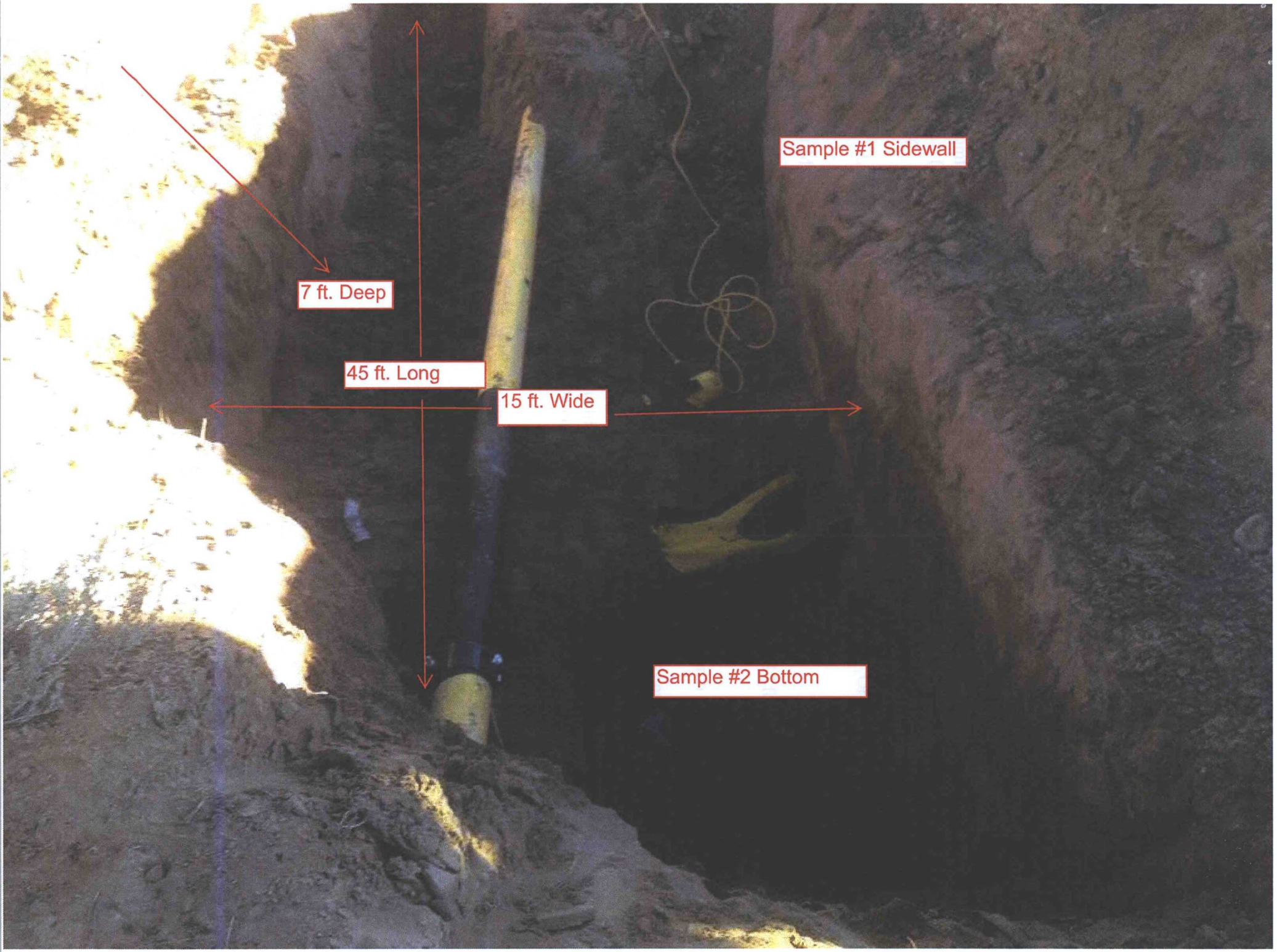
Attached sample results include a sidewall composite and bottom composite.

Sample Information

OCD Witness Sampling: Yes or No

Agency(s) Representative(s): NA

Sample ID	Sample Date	Type (Composite, Grab)	Location (Floor, Sidewall)	Comments
1703674-001	3/9/2017	Composite	Sidewall	
1703674-002	3/9/2017	Composite	Bottom	


Sample #1 Sidewall
7 ft. Deep
45 ft. Long
15 ft. Wide
Sample #2 Bottom

Chain-of-Custody Record

Client: Williams Field Service

Mailing Address: 1755 Arroya Drive
Bloomfield New Mexico 87413

Phone #: 505-632-4625

email or Fax#: monica.sandoval@williams

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: ~~Rosa~~ Lateral N-37

Project #: JW01793668

Project Manager: Monica Sandoval
505-632-4625

Sampler: M Stahle

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703674	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	chloride				Air Bubbles (Y or N)
3-9-17	10:15	soil	LAT-N-37-W	4oz	ice	-001	X		X									X				
3-9-17	10:30	soil	LAT-N-37 B	4oz	ice	-002	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/10/17	1610	Mike Stahle	Chet Watt	3/10/17	1610
3/10/17	1757	Chet Watt		03/11/17	0800

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

OPERATOR

☐ Update Report ☒ Final Report

Name of Company: Williams Four Corners LLC	Contact: Michael Hannan
Address: 1755 Arroyo Dr., Bloomfield, NM 87413	Telephone No.: (505) 632-4807
Facility Name: Lateral H-3 Pipeline	Facility Type: Pipeline

Surface Owner: Bureau of Land Management (BLM)	Mineral Owner	BLM Project No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	27	29N	09W					San Juan

Latitude 36.70339° N **Longitude** -107.77343° W

NATURE OF RELEASE

Type of Release: Natural Gas	Volume of Release: <50 MCF Natural Gas	Volume Recovered: 0 MCF Natural gas
Source of Release: Pipeline	Date and Hour of Occurrence: Estimated 02/05/16 at 02:00 PM MST	Date and Hour of Discovery: 02/05/16 at 02:00 PM MST
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Cory Smith, NMOCD Katherina Diemer, BLM	
By Whom? Matthew Webre	Date and Hour: 02/06/16 at 8:30 AM MST	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Not Applicable

OIL CONS. DIV DIST. 3

JUN 12 2017

Describe Cause of Problem and Remedial Action Taken.*

Williams personnel discovered a minor gas leak during a leak locating survey on the Lateral H-3 Pipeline, which runs across Largo wash. No liquids were observed and the gas loss was calculated to be less than 50 MCF. Williams immediately isolated the pipeline.

Describe Area Affected and Cleanup Action Taken.*

The Lateral H-3 pipeline is approximately 25 feet below ground surface where it crosses the wash and groundwater is believed to be around five feet. On February 19, 2016, Williams collected a groundwater sample directly at the release location, as well as one upstream and one downstream approximately 30 feet from the pinhole source. Benzene concentrations exceeded water quality control commission (WQCC) standard of 10 µg/L in one sample (W-3). Williams submitted a report of the initial sampling results, along with a work plan for further groundwater investigation, to the NMOCD on March 15, 2016 (see attached), which OCD approved with conditions on December 21, 2016 (see attached). Williams applied for a temporary use permit with BLM to conduct construction activities for the replacement of an approximately 1,500-foot section of pipeline where it crosses the wash. The BLM wrote an Environmental Assessment (attached) for the site in December 2016 requesting soil samples during pipeline repairs to investigate for potential unidentified impacts to soil. Due to the pipeline being below the groundwater table, the BLM agreed (see attached) to allow Williams to conduct soil sampling at the two locations on either side of the wash at which the new pipeline section will tie-in to the existing pipeline. Williams conducted the BLM-required soil sampling on April 14, 2017 and submitted a report of the results (attached) to BLM on May 3, 2017. All analytes were below detection limits in both samples. Williams conducted the OCD-required groundwater sampling on May 3, 2017 and submitted a report of the results (attached) to OCD (and BLM) on June 2, 2017. All analytes were below detection limits in all four samples (W-3 which had benzene detected in the February 19, 2016 sample, and, three downgradient locations).

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.

#NCS1723653622

120

Signature:	OIL CONSERVATION DIVISION Approved by Environmental Specialist:		
Printed Name: Michael Hannan, P.E.			
Title: Engineer, Sr.	Approval Date: 8/24/17	Expiration Date:	
E-mail Address: michael.hannan@williams.com	Conditions of Approval:	Attached ☐	
Date: 06/07/2017 Phone: (505) 632-4807			

* Attach Additional Sheets If Necessary

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.

2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

March 15, 2016

Ms. Kelsey Christiansen
Williams Four Corners LLC
188 County Road 4900
Bloomfield, New Mexico 87413

RE: Proposed Work Plan
Williams Four Corners LLC
Lateral H-3 Pipeline Release
San Juan County, New Mexico

Dear Ms. Christiansen:

LT Environmental, Inc. (LTE) is pleased to present to Williams Four Corners LLC (Williams) the following work plan to investigate impact to groundwater near the Lateral H-3 natural gas pipeline (Site) in Largo Canyon Wash in Section 27 of Township 29 North, Range 9 West in San Juan County, New Mexico (Figure 1). A pipeline release was detected by a Williams survey crew on February 5, 2016. This work plan provides details of the release and a proposed action to address elevated benzene concentrations in groundwater at the Site as documented on the C-141 Release Notification and Corrective Action Form submitted to the New Mexico Oil Conservation Division (NMOCD) on March 1, 2016.

Background

On February 5, 2016, Williams personnel discovered a minor gas leak during a leak detection survey on the Lateral H-3 pipeline, which runs across Largo Canyon Wash, a prominent arroyo with consistent seasonal flows. No liquids or soil staining was observed on the ground surface. Williams immediately isolated the Lateral H-3 pipeline, which runs 8 feet to 10 feet below ground surface (bgs). Williams estimated the gas loss from a pinhole leak to be less than 50 thousand cubic feet. Williams provided verbal notification to the NMOCD and the Bureau of Land Management (BLM) on February 6, 2016. A C-141 Release Notification and Corrective Action Form was submitted to the NMOCD on February 11, 2016 with initial information on the release. An updated C-141 was submitted on March 1, 2016 after groundwater sampling was conducted.

Groundwater Sampling

On February 19, 2016, Animas Environmental Services, on behalf of Williams, collected three groundwater grab samples from the Site using a manual hydropunch and peristaltic pump. No staining or hydrocarbon odors were observed in the boreholes which were advanced to 8 feet bgs. Groundwater was encountered at approximately 3 to 5 feet bgs. A groundwater sample was collected at the source of the pipeline release (W-1), approximately 30 feet upgradient (W-2), and approximately 30 feet downgradient (W-3). No soil staining was observed in any of the boreholes. Groundwater samples were sent to Hall Environmental Analysis Laboratory (HEAL) in

Albuquerque, New Mexico, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency Method (USEPA) 8021B, total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO) by USEPA Method 8015D. The groundwater samples collected at the source and upgradient location did not contain detectable concentrations of BTEX, TPH-GRO, or TPH-DRO. The downgradient groundwater sample, W-3, exhibited a benzene concentration of 18 micrograms per liter (µg/L), which exceeds the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 µg/L. Groundwater sample locations and results are depicted on Figure 2. The complete laboratory analytical report is included as Attachment 1.

Proposed Action

Due to the depth of the pipeline under Largo Canyon Wash and the observed shallow groundwater, Williams is currently evaluating options to either repair, replace, or reroute the gathering line.

Since the pipeline release area is in Largo Canyon Wash, it is not practical to install permanent groundwater monitoring wells. The monitoring wells would be washed out and destroyed by active surface flows. Because no apparent source material was observed in the soil borings and groundwater sampled at the release location (W-1) is not impacted, the presence of benzene in W-3 on February 19, 2016, is most likely temporary: the result of minor liquids expelled from the pinhole leak and diluted or washed downstream. Dilution will continue with recurring surface flows as surface water mixes with the shallow groundwater in the highly permeable sandy lithology. LTE recommends Williams use a hydropunch to collect groundwater samples at the same location as W-3 in March 2016 and again in July 2016. To confirm there is no downgradient impact, LTE proposes three additional groundwater samples (W-4, W-5, and W-6) be collected downgradient of W-3. Proposed sample locations are depicted on Figure 2.
Groundwater grab samples will be collected using disposable polyethylene tubing connected to a peristaltic pump. Prior to collecting the groundwater sample, the groundwater in the boreholes will be purged using the peristaltic pump until turbidity is reduced to the greatest extent possible. The groundwater samples will be collected by filling three 40-milliliter glass vials. The laboratory-supplied vials will be filled and capped with no air inside to prevent degradation of the sample. Samples will be labeled with the date and time of collection, groundwater sample identification, project name, sample collector's name, and parameters to be analyzed. Samples will be immediately sealed, packed on ice, and transferred to HEAL under chain-of-custody (COC) procedures for analysis of BTEX using USEPA Method 8021B. COC forms will be completed documenting the date and time sampled, sample number, type of sample, sample collector's name, preservative used (if any), analyses required, and sample collector's signature.

LTE predicts any residual concentrations of benzene will naturally attenuate by the unique conditions imposed by Largo Canyon Wash during spring runoff and the lack of source material. As such, additional monitoring of groundwater in a location where it mixes with surface water is unnecessary. Should the concentrations of benzene be compliant with NMWQCC standards during both sampling events, a closure request will be submitted to the NMOCD.

LTE appreciates the opportunity to provide this work plan to Williams. If you have any questions or comments regarding this plan, do not hesitate to contact me at (970) 385-1096 or via email at bherb@ltenv.com.

Sincerely,
LT ENVIRONMENTAL, INC.

Brooke Herb
Project Geologist

Ashley L. Ager, M.S.
Senior Geologist

Attachments

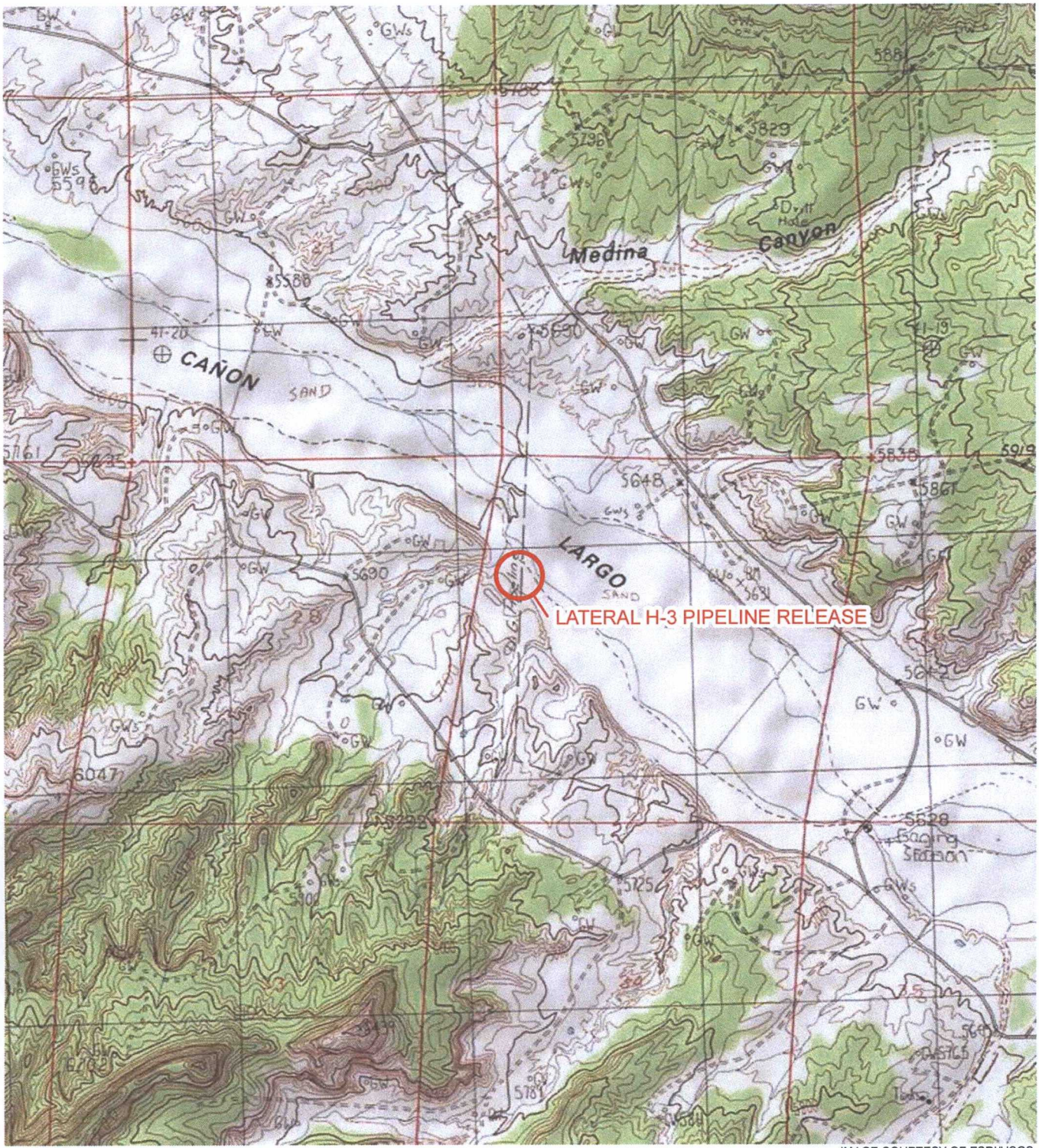


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

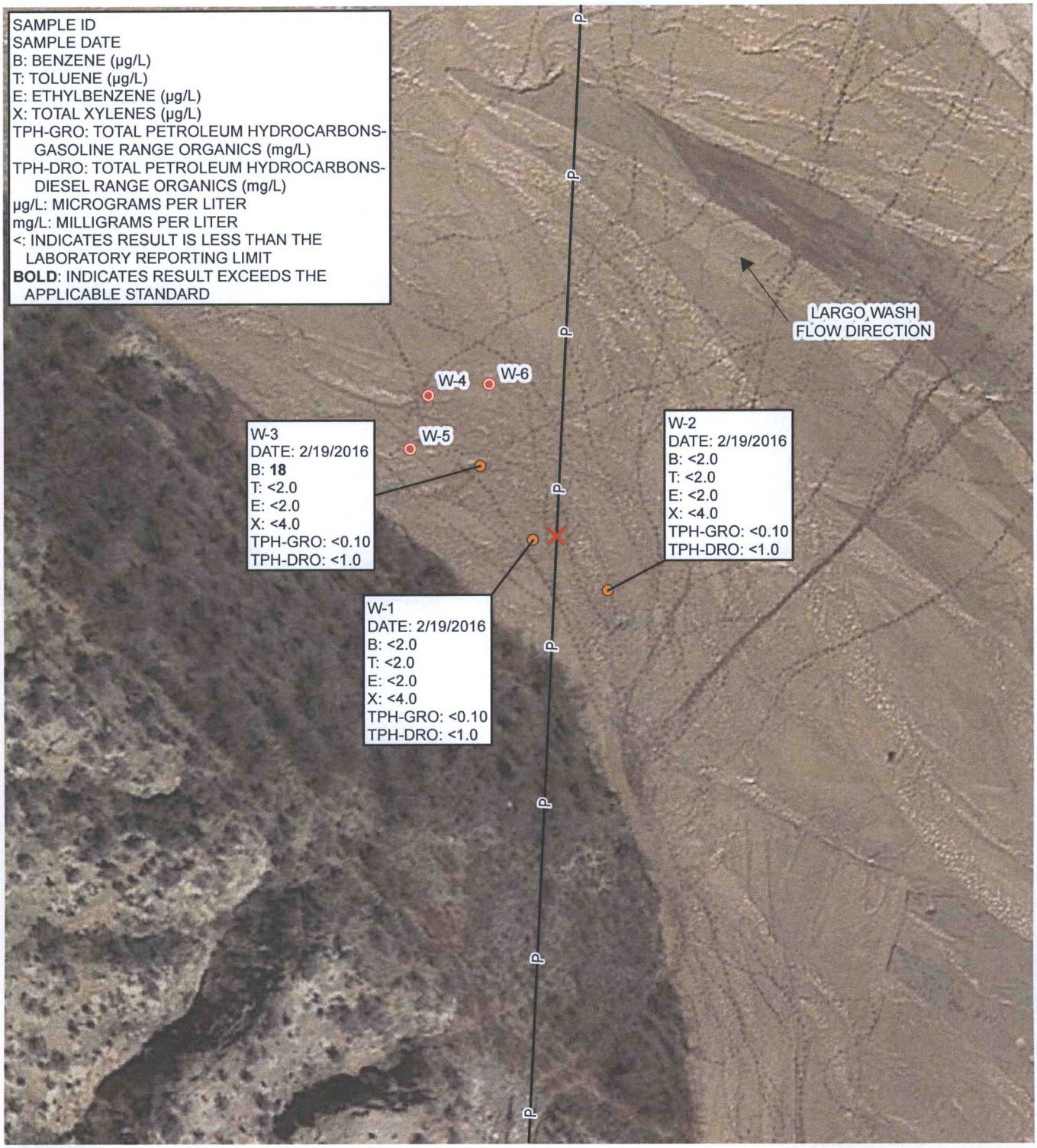
Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
LATERAL H-3 PIPELINE RELEASE
SWNW SEC 27 T29N R9W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034016003_LATERAL H-3 PIPELINE RELEASE\034016003_LATERAL H-3_FIG01_SL.mxd



LEGEND

IMAGE COURTESY OF GOOGLE EARTH 2015

- APPROXIMATE RELEASE LOCATION
- APPROXIMATE LOCATION OF HYDROPUNCH SAMPLE
- PROPOSED HYDROPUNCH SAMPLE
- —P— APPROXIMATE LOCATION OF LATERAL H-3 PIPELINE

0 50 100
Feet

N

FIGURE 2
SITE MAP
LATERAL H-3 PIPELINE RELEASE
SWNW SEC 27 T29N R9W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034016003_LATERAL H-3 PIPELINE RELEASE\034016003_LATERAL H-3_FIG02_SITE.mxd

ATTACHMENT 1

LABORATORY ANALYTICAL REPORT

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 29, 2016

Corwin Lameman
Animas Environmental Services
604 Pinon Street
Farmington, NM 87401
TEL: (505) 564-2281
FAX (505) 324-2022

RE: Williams H-3 Lateral 6 Release OrderNo.: 1602962

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/23/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1602962**
Date Reported: **2/29/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: W-1
Project: Williams H-3 Lateral 6 Release
Collection Date: 2/19/2016 12:09:00 PM
Lab ID: 1602962-001 **Matrix:** AQUEOUS **Received Date:** 2/23/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/25/2016 9:01:05 PM	23932
Surr: DNOP	131	70-141		%Rec	1	2/25/2016 9:01:05 PM	23932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.10	D	mg/L	2	2/24/2016 9:52:46 AM	A32376
Surr: BFB	83.4	49.5-130	D	%Rec	2	2/24/2016 9:52:46 AM	A32376
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0	D	µg/L	2	2/24/2016 9:52:46 AM	B32376
Toluene	ND	2.0	D	µg/L	2	2/24/2016 9:52:46 AM	B32376
Ethylbenzene	ND	2.0	D	µg/L	2	2/24/2016 9:52:46 AM	B32376
Xylenes, Total	ND	4.0	D	µg/L	2	2/24/2016 9:52:46 AM	B32376
Surr: 4-Bromofluorobenzene	103	65-127	D	%Rec	2	2/24/2016 9:52:46 AM	B32376

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: W-2
Project: Williams H-3 Lateral 6 Release
Collection Date: 2/19/2016 12:46:00 PM
Lab ID: 1602962-002 **Matrix:** AQUEOUS **Received Date:** 2/23/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/25/2016 9:22:37 PM	23932
Surr: DNOP	125	70-141		%Rec	1	2/25/2016 9:22:37 PM	23932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.10	D	mg/L	2	2/24/2016 10:17:16 AM	A32376
Surr: BFB	90.6	49.5-130	D	%Rec	2	2/24/2016 10:17:16 AM	A32376
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0	D	µg/L	2	2/24/2016 10:17:16 AM	B32376
Toluene	ND	2.0	D	µg/L	2	2/24/2016 10:17:16 AM	B32376
Ethylbenzene	ND	2.0	D	µg/L	2	2/24/2016 10:17:16 AM	B32376
Xylenes, Total	ND	4.0	D	µg/L	2	2/24/2016 10:17:16 AM	B32376
Surr: 4-Bromofluorobenzene	114	65-127	D	%Rec	2	2/24/2016 10:17:16 AM	B32376

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: W-3
Project: Williams H-3 Lateral 6 Release
Collection Date: 2/19/2016 12:34:00 PM
Lab ID: 1602962-003 **Matrix:** AQUEOUS **Received Date:** 2/23/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/25/2016 9:44:10 PM	23932
Surr: DNOP	124	70-141		%Rec	1	2/25/2016 9:44:10 PM	23932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.10	D	mg/L	2	2/24/2016 10:41:51 AM	A32376
Surr: BFB	87.2	49.5-130	D	%Rec	2	2/24/2016 10:41:51 AM	A32376
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	18	2.0	D	µg/L	2	2/24/2016 10:41:51 AM	B32376
Toluene	ND	2.0	D	µg/L	2	2/24/2016 10:41:51 AM	B32376
Ethylbenzene	ND	2.0	D	µg/L	2	2/24/2016 10:41:51 AM	B32376
Xylenes, Total	ND	4.0	D	µg/L	2	2/24/2016 10:41:51 AM	B32376
Surr: 4-Bromofluorobenzene	110	65-127	D	%Rec	2	2/24/2016 10:41:51 AM	B32376

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: Trip Blank
Project: Williams H-3 Lateral 6 Release
Collection Date:
Lab ID: 1602962-004 **Matrix:** AQUEOUS **Received Date:** 2/23/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/24/2016 11:06:33 AM	A32376
Surr: BFB	85.5	49.5-130		%Rec	1	2/24/2016 11:06:33 AM	A32376
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	2/24/2016 11:06:33 AM	B32376
Benzene	ND	1.0		µg/L	1	2/24/2016 11:06:33 AM	B32376
Toluene	ND	1.0		µg/L	1	2/24/2016 11:06:33 AM	B32376
Ethylbenzene	ND	1.0		µg/L	1	2/24/2016 11:06:33 AM	B32376
Xylenes, Total	ND	2.0		µg/L	1	2/24/2016 11:06:33 AM	B32376
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/24/2016 11:06:33 AM	B32376
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/24/2016 11:06:33 AM	B32376
Surr: 4-Bromofluorobenzene	108	65-127		%Rec	1	2/24/2016 11:06:33 AM	B32376

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1602962**

29-Feb-16

Client: Animas Environmental Services

Project: Williams H-3 Lateral 6 Release

Sample ID **MB-23932**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **23932**	RunNo: **32388**
Prep Date: **2/25/2016**	Analysis Date: **2/25/2016**	SeqNo: **990951** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Surr: DNOP	1.2		1.000		116	70	141			

Sample ID **LCS-23932**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **23932**	RunNo: **32422**
Prep Date: **2/25/2016**	Analysis Date: **2/26/2016**	SeqNo: **991575** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	71.3	139			
Surr: DNOP	0.53		0.5000		106	70	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1602962**

29-Feb-16

Client: Animas Environmental Services
Project: Williams H-3 Lateral 6 Release

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **A32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989936** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		89.2	49.5	130			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **A32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989937** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	93.2	80	120			
Surr: BFB	21		20.00		106	49.5	130			

Sample ID **1602962-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **W-1**	Batch ID: **A32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989939** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.92	0.10	1.000	0	92.4	70	130			
Surr: BFB	41		40.00		102	49.5	130			

Sample ID **1602962-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **W-1**	Batch ID: **A32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989940** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.89	0.10	1.000	0	88.6	70	130	4.11	20	
Surr: BFB	40		40.00		99.2	49.5	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1602962**

29-Feb-16

Client: Animas Environmental Services

Project: Williams H-3 Lateral 6 Release

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989959** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	23		20.00		114	65	127			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989960** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18	2.5	20.00	0	89.2	78.4	127			
Benzene	19	1.0	20.00	0	93.5	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	62	2.0	60.00	0	103	80	120			
1,2,4-Trimethylbenzene	22	1.0	20.00	0	109	79.9	137			
1,3,5-Trimethylbenzene	21	1.0	20.00	0	106	81.6	128			
Surr: 4-Bromofluorobenzene	25		20.00		127	65	127			S

Sample ID **1602962-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **W-2**	Batch ID: **B32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989963** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	32	5.0	40.00	0	79.4	67.4	148			
Benzene	35	2.0	40.00	0	88.3	78	119			
Toluene	39	2.0	40.00	1.188	93.4	80	120			
Ethylbenzene	38	2.0	40.00	0	93.8	80	120			
Xylenes, Total	110	4.0	120.0	0	93.6	75.3	120			
1,2,4-Trimethylbenzene	39	2.0	40.00	0	97.3	79.3	134			
1,3,5-Trimethylbenzene	38	2.0	40.00	0	95.2	80.7	125			
Surr: 4-Bromofluorobenzene	46		40.00		114	65	127			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1602962**

29-Feb-16

Client: Animas Environmental Services

Project: Williams H-3 Lateral 6 Release

Sample ID **1602962-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **W-2**	Batch ID: **B32376**	RunNo: **32376**
Prep Date:	Analysis Date: **2/24/2016**	SeqNo: **989964** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	34	5.0	40.00	0	85.9	67.4	148	7.91	20	
Benzene	35	2.0	40.00	0	87.7	78	119	0.614	20	
Toluene	39	2.0	40.00	1.188	93.3	80	120	0.0104	20	
Ethylbenzene	38	2.0	40.00	0	95.0	80	120	1.32	20	
Xylenes, Total	110	4.0	120.0	0	95.4	75.3	120	1.89	20	
1,2,4-Trimethylbenzene	39	2.0	40.00	0	96.9	79.3	134	0.402	20	
1,3,5-Trimethylbenzene	38	2.0	40.00	0	96.2	80.7	125	1.03	20	
Surr: 4-Bromofluorobenzene	48		40.00		121	65	127	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Animas Environmental Work Order Number: 1602962 RcptNo: 1

Received by/date: JA 02/23/16

Logged By: Anne Thorne 2/23/2016 8:00:00 AM Anne Thorne

Completed By: Anne Thorne 2/23/2016 Anne Thorne

Reviewed By: 02/23/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks: per CL use collection times on sample ID labels AT 02/24/16

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: **Animas Environmental Services**

Mailing Address: **604 W Pinon St**
Farmington, NM 87401

Phone #: **505-564-2281**

email or Fax#: clameman@animasenvironmental.com

QA/QC Package:
X Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
Williams H-3 Lateral 6 Release

Project #:

Project Manager:
C. Lameman

Sampler: SG/CL

On Ice: X Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1602981	BTEX - EPA 8021B	TPH - EPA 8015B (GRO/DRO)	Chlorides - EPA 300.0 Cl											Air Bubbles (Y or N)
2-19-16	~~1209~~ 1246	H_2O	W-1	3-40mL VOA	HCl	-001	X	X	X											
2-19-16	~~1246~~ 1209	H_2O	W-2	3-40mL VOA	HCl	-002	X	X	X											
2-19-16	1234	H_2O	W-3	3-40mL VOA	HCl	-003	X	X	X											
			Trip Blanks	2-40mL VOA	HCl	-004	X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/22/16	1558			2/22/16	1550
2/22/16	1821			02/23/16	0800

Remarks: Bill to Williams Four Corners, LLC
W-2 & W-3 samples reacted with HCl. Bubble in Samples.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

From: Smith, Cory, EMNRD
To: Webre, Matt
Cc: Hannan, Michael; Fields, Vanessa, EMNRD; Griswold, Jim, EMNRD
Subject: RE: C-141 Lateral H-3 Pipeline, Natural Gas Release
Date: Wednesday, December 21, 2016 8:36:16 AM
Attachments: image003.png
image004.png
image005.png
image006.png
image007.png
image008.png
image009.png
image010.jpg
image011.png

Matt,

OCD approves your proposed plan with the following conditions.

- Water samples for BTEX will use EPA Method 8260 please provide the full list of contaminates.
- Please provide at least 48 hour notice prior to collecting water samples to the District III OCD office.

Following the additional sampling event, Williams may be required to submit an additional remediation plan. If you have any questions please let me know.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Webre, Matt [mailto:Matt.Webre@Williams.com]
Sent: Friday, July 22, 2016 11:15 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Hannan, Michael <Michael.Hannan@Williams.com>
Subject: FW: C-141 Lateral H-3 Pipeline, Natural Gas Release

Cory and Vanessa,

I was looking back at a project and I cannot find any return correspondence back from the OCD regarding the attached work plan that was submitted in March 2016. If you read through the plan as what was proposed, we did not complete any sampling in March 2016 as Kelsey was waiting on a response. We also proposed collecting a sample in July 2016. Williams would like to proceed with

the proposed plan and would like to know if we need approval before we proceed.

Matt Webre, PG | Williams | Supervisor EH&S | Operational Excellence
Office: 505-632-4442 | Cell: 505-215-8059 | 1755 Arroyo Drive, Bloomfield, NM 87413

From: Christiansen, Kelsey
Sent: Tuesday, March 22, 2016 1:24 PM
To: 'Smith, Cory, EMNRD' <Cory.Smith@state.nm.us>; 'Fields, Vanessa, EMNRD' <Vanessa.Fields@state.nm.us>
Subject: RE: C-141 Lateral H-3 Pipeline, Natural Gas Release

Cory and Vanessa,

Please see attached Remediation plan for the pipeline release at Lateral H-3.

Please review and let me know if you have any further questions or need anything else.

Thanks,
-Kelsey

From: Christiansen, Kelsey
Sent: Tuesday, March 01, 2016 4:04 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: RE: C-141 Lateral H-3 Pipeline, Natural Gas Release

Cory and Katherina,

Please find attached the updated C-141 for the Lateral H-3 Pipeline release. Williams will be submitting a remediation plan shortly.

Please let me know if you have any questions.

Thank you and I will be in contact with you both.

-Kelsey

From: Christiansen, Kelsey [mailto:Kelsey.Christiansen@williams.com]
Sent: Thursday, February 11, 2016 3:02 PM
To: Smith, Cory, EMNRD; kdiemer@blm.gov

Cc: Ruybalid, Tristen; Webre, Matt
Subject: C-141 Lateral H-3 Pipeline, Natural Gas Release

Cory and Katherina,

Please find attached a initial C-141 for a non-reportable natural gas release which occurred on the Lateral H-3 Pipeline, within Largo Canyon.

A hardcopy will be sent to your offices shortly.

Groundwater samples will be collected Monday, February 15th, 2016 at approximately 10:00 AM by a third party.

Best Regards,
Kelsey

Kelsey Christiansen | Environmental Specialist, Environmental Services - FCA | Operational Excellence | Williams O: 505-632-4606 | C: 505-215-7433
kelsey.christiansen@williams.com

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United States Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NM-F010-2017-0013

Lateral H-3 Pipeline Repair

December 2016

U.S. Department of the Interior
Bureau of Land Management
Farmington District
Farmington Field Office
6251 N. College Blvd., Ste. A
Farmington, NM 87402
Phone: (505) 564-7600
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BLM

New Mexico • Farmington Field Office

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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LIST OF TABLES

ACRONYMS

ACHP	Advisory Council on Historic Preservation
BLM	Bureau of Land Management
BMP	Best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
EA	Environmental Assessment
Ecosphere	Ecosphere Environmental Services, Inc.
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FFO	Farmington Field Office
MLA	Mineral Leasing Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMDA	New Mexico Department of Agriculture
NPA	National Programmatic Agreement
PL	Public Law
PRMP	Proposed Resource Management Plan
RFD	Reasonably foreseeable development
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-way

SDA	Specially Designated Area
TUA	Temporary use area
USC	United States Code
USDI	United States Department of the Interior
USGS	United States Geological Survey
Williams Four Corners	Williams Four Corners Four Corners, LLC

1. PURPOSE AND NEED FOR ACTION

1.1 Background

Williams Four Corners, LLC (Williams Four Corners) is proposing to replace a segment of the Lateral H-3 Pipeline at the Largo Canyon crossing to repair a line leak. The proposed project is located on lands administered by the United States Department of Interior (USDI) Bureau of Land Management (BLM) Farmington Field Office (FFO). The proposed project area is located in the NW ¼ of Section 27, Township 29 North, Range 9 West, New Mexico Principal Meridian in San Juan County, New Mexico, approximately 3 miles southeast of Blanco, New Mexico.

Williams Four Corners is proposing to bore a new pipeline segment under Largo Canyon utilizing their existing right-of-way (ROW) and additional work space. Surface disturbance for the proposed project would include the existing (NMNM 013012 01) and two temporary use areas (TUAs) located on either side of the pipeline segment needing to be replaced. Williams Four Corners is requesting a temporary ROW grant for the TUAs from the BLM/FFO to repair the line.

1.2 Purpose and Need for Action

The purpose of the proposed action is to provide Williams Four Corners with reasonable access to BLM-managed lands to repair the Lateral H-3 Pipeline. The need for the action is established by the BLM's authority under the Mineral Leasing Act (MLA) of 1920, as amended (30 United States Code [USC] 181 et seq.) and under the Title V of the Federal Land Policy and Management Act, as amended (43 USC 1761-1771) and Section 28 of the MLA (43 USC 85), to respond to the ROW application.

1.3 Decision to be Made

Based on information in this Environmental Assessment (EA), the BLM/FFO will decide whether to approve the ROW, and if so, under what terms and conditions. Under the National Environmental Policy Act (NEPA), as amended (Public Law [PL]. 91-90, 42 USC 4321 et seq.), the BLM/FFO must determine if there are any significant environmental impacts associated with the proposed action. Warranting further analysis in an Environmental Impact Statement (EIS). The BLM/FFO Field Manager is the responsible officer who will decide one of the following:

- To approve the proposed action with design features as submitted
- To approve the proposed action with additional mitigations
- To analyze the effects of the proposal in an EIS
- To deny the proposed action

1.4 Conformance with Applicable Land Use Plan(s)

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this EA incorporates the information and analysis contained in the 2003 Farmington Proposed Resource Management Plan (PRMP)/Final Environmental Impact Statement (FEIS) (USDI/BLM 2003a). The proposed action would

be in conformance with the oil and gas leasing and development management actions in the Resource Management Plan (RMP)/Record of Decision (ROD) signed December 2003 and updated in December 2003 (USDI/BLM 2003b). The proposed action would be in conformance with the 2003 RMP/ROD that states, to the extent possible, ROWs would be located within or parallel to existing ROWs or corridors to minimize resource impacts (USDI/BLM 2003b, page 2-11).

The RMP and ROD are available for review at the FFO in Farmington, New Mexico or electronically at https://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_planning/farmington_rmp.html. This project EA addresses site-specific resources and/or impacts that are not covered within the PRMP/FEIS, as required by the NEPA.

Oil and gas development is recognized as an appropriate use of public lands in the FFO planning area (USDI/BLM 2003b). The RMP adheres to the Federal mandates contained in the Energy Policy and Conservation Action (42 USC 6217) and Executive Order 13212, that direct Federal land managing agencies to expedite the production of the Federal mineral estate for the development of reliable domestic sources of energy (USDI/BLM 2003b, pages 1 and 11). The proposed project would not be in conflict with any local, county, or state plans.

1.5 Relationship to Statutes, Regulations, or Other Plans

The applicants would comply with all applicable federal, state, and local laws and regulations, as well as obtain the necessary permits for the implementation of the proposed action. These laws and regulations include, but are not limited to:

- Antiquities Act of 1906, as amended (PL 52-209; 16 USC 431-433)
- American Indian Religious Freedom Act of 1978 (PL 95-431; 92 Stat. 469; 42 USC 1996)
- Archaeological Resources Protection Act of 1979 (PL 96-95; 93 Stat. 721; 16 USC § 470aa et seq.), as amended (PL 100-555; PL 100-588)
- Bald and Golden Eagle Protection Act of 1940, as amended (PL 86-70, PL 87-884, PL 92-535, PL 95-616; USC 668-668d)
- Clean Air Act, as amended (PL 88-206; 42 USC § 7401 et seq.)
- Clean Water Act, as amended (PL 107-303; 33 USC § 1251, et seq.)
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (PL 96-510; 42 USC § 9601; 40 CFR Part 307)
- Endangered Species Act of 1973 (PL 93-205; 16 USC § 1531 et seq.)
- Executive Order 11988 Floodplain Management
- Executive Order 11990 Protection of Wetlands
- Executive Order 12898 Environmental Justice
- Executive Order 13007 Indian Sacred Sites
- Executive Order 13112 Invasive Species
- Executive Order 13186 Responsibilities of Federal Agencies to Protect Migratory Birds
- Migratory Bird Treaty Act of 1918, as amended (16 USC §§ 703-712; 50 CFR Part 21)

- Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 104 Stat. 3048; 25 USC 3001; 43 CFR Part 10)
- Section 106 of the National Historic Preservation Act of 1966 (NHPA) (PL 89-665; 80 Stat. 915; 16 USC 470 et seq.), as amended (implemented under regulations of the Advisory Council on Historic Preservation, 36 CFR Part 800)

1.6 Scoping, Public Involvement, and Issues

The Council on Environmental Quality (CEQ) defines scoping as "an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action alternative" (40 CFR 1501.7). Scoping is the process by which the BLM solicits internal and external input on the issues, impacts, and potential alternatives that will be addressed in an EIS or EA. As outlined in the BLM NEPA Handbook, it is optional for the BLM to conduct external scoping on actions analyzed by an EA (USDI/BLM 2008, Section 6.3.2).

1.6.1 Issues to be Analyzed

For the purpose of BLM NEPA analysis, an "issue" is a point of disagreement, debate, or dispute with a proposed action based on some anticipated environmental effect. Preliminary issues are frequently identified during the development of the proposed action through scoping.

The BLM/FFO Interdisciplinary Team was integrally involved in the internal scoping to identify potential issues, understand the proposal, develop the purpose and need, and develop a range of alternatives. The following issues were identified as potential issues of concern by the Interdisciplinary Team during an internal scoping meeting held in September 26, 2016:

The following were identified as potential issues of concern by the Interdisciplinary Team during internal scoping:

- How would the proposed action impact surface water resources in the area?
- How would the proposed action impact the establishment and distribution of noxious weeds and invasive species?
- How would the proposed action impact livestock grazing in the allotment?
- How would the Proposed Action impact cultural resources, including historic properties, properties listed on the National Register of Historic Places or New Mexico State register of Cultural Properties, Chaco Protection Sites, World Heritage Sites, National Historic Trails, or other places of traditional religious and cultural importance in the Impact Analysis Area?

1.6.2 Issues Considered but not Analyzed

CEQ regulations (40 CFR § 1501.7) state that the lead agency shall identify and eliminate from detailed study the issues that are not important or that have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not

have a significant effect on the human or natural environment or providing a reference to their coverage elsewhere.

The BLM/FFO Interdisciplinary Team identified the following resources during internal scoping as potential issues of concern that would not be significantly impacted or have been evaluated in previous analyses.

Threatened and Endangered Species

No federally listed species with the potential to occur in San Juan County or potential habitats for federally listed species were observed within the proposed project area. Furthermore, no designated critical habitat for any federally listed species occurs within the proposed project area. The BLM/FFO reviewed and determined that the proposed action is in compliance with listed species management guidelines outlined in the September 2002 Biological Assessment (Cons. No. 2-22-01-I-389) (USDI/BLM 2002). No further consultation with the U.S. Fish and Wildlife Service is required.

Special Management Species

There are eight BLM/FFO special status species with the potential to occur in the project or action area:

1. Spotted bat (*Euderma maculatum*)
2. Townsend's big-eared bat (*Corynorhinus townsendii*)
3. Peregrine falcon (*Falco peregrinus*)
4. Bendire's thrasher (*Toxostoma bendirei*)
5. Ferruginous hawk (*Buteo regalis*)
6. Golden eagle (*Aquila chrysaetos*)
7. Piñon jay (*Gymnorhinus cyanocephalus*)
8. Prairie falcon (*Falco mexicanus*)

Design features of the proposed project have minimized impacts to BLM/FFO special management species to the largest extent practicable. Construction of the proposed project is scheduled to occur in late fall/early winter of 2016, which occurs outside of the breeding season for special management and migratory bird species. The TUAs are located in areas adjacent to the existing ROW, and would be reclaimed following completion of construction.

A biological survey report was completed for the proposed action and is on file at the BLM/FFO. No adverse impacts to special management species were identified.

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2. PROPOSED ACTION AND ALTERNATIVES(S)

2.1 Alternative A: No Action

The BLM NEPA Handbook (H-1790-1; USDI/BLM 2008) states that for EAs on externally initiated proposed actions, the no action alternative is generally to reject the proposal or deny the application. This option is provided in 43 CFR 3162.3-2 (h) (2). This alternative would deny the approval of the ROW amendment and the current land and resource uses would continue in the area. The existing Lateral H-3 pipeline under Largo Canyon would not be repaired. There would continue to be health and safety concerns and the potential for adverse environmental effects. Natural gas and other hydrocarbons transported by the Lateral H-3 pipeline would not be available for public utilization.

The no action alternative provides a useful baseline for comparison of environmental effects (including cumulative effects) and demonstrates the consequences of not meeting the need for the action.

2.2 Alternative B: Proposed Action

Williams Four Corners is proposing to replace the Lateral H-3 pipeline segment crossing Largo Canyon. The proposed action would be located in San Juan County, approximately 3 miles southeast of Blanco, New Mexico on lands administered by the BLM/FFO. A vicinity map is provided as Map 1 in Appendix A. Map 2 shows the proposed action on the Blanco, New Mexico, United States Geological Survey (USGS) 7.5-minute quadrangle map. Map 3 shows the proposed project on a 2010 aerial image. The legal description of the proposed project is NW¼ of Section 27, Township 29 North, Range 9 West, New Mexico Principal Meridian.

As part of the proposed action, the existing pipeline would be cut and remain in place and a 1,500-foot section of 4.5-inch pipe would be placed in a bore under Largo Canyon 5 feet from the existing pipeline. The proposed action would require the use of two 150-foot by 500-foot TUAs for construction. Approximately 0.2 acre within the southern TUA is located on an existing well pad. Total new temporary surface disturbance would be approximately 3.2 acres.

At bore locations, sufficient area would be needed on the working side of the ROW to allow for safe equipment passage and working space. No site clearing would occur; the area would be brush-hogged. Boring would require minimal mud for drilling. Bentonite drilling mud would be used at each bore location to lubricate the casing against the soil. The amount of bentonite used would depend on the soil conditions encountered during the drilling process. No mud pits or pans would be needed to contain the drilling mud. Typically, bentonite (clay) used in horizontal drilling is left in the ground. At least 12 inches of cover would be required over any bentonite left in the ground.

Williams Four Corners would access the proposed project area from the south on an existing road to the Federal 29-9-27 #3 well pad. The northern TUA would be accessed via the existing pipeline ROW.

Construction would take approximately 1 to 2 weeks and would commence as soon as the ROW is granted. Following construction, the two-track road on the south side would be reclaimed.

2.2.1 Design Features

All areas of proposed for construction were inspected in the field to ensure that potential impacts to natural resources would be minimized through the implementation of design features or mitigation measures.

- The area would be brush-hogged. Greasewood will be the only species removed.
- Unauthorized two track on north side will be reclaimed using the riparian wetland community.
- Unauthorized two track on south side will be reclaimed using the sagebrush/greasewood terrace seed mix.
- The two-track roads will be reseeded with a BLM/FFO-approved seed mix. Seeding will be accomplished within 120 days of construction completion, weather permitting. Upon evaluation after the second growing season, seeding will be repeated if a satisfactory stand is not obtained.
- Any trenches or holes will be fenced with orange safety fence if left unattended or overnight to prevent wildlife or livestock injury.
- Prior to construction equipment entering the proposed project area, construction equipment would be inspected for noxious weeds and cleaned. It will be the operator's responsibility to monitor, control, and eradicate all noxious weed species within the permitted area throughout the life of the proposed project. The operator will contact the BLM/FFO regarding acceptable weed-control methods. If the operator does not hold a current Pesticide Use Permit, a Pesticide Use Proposal will be submitted prior to pesticide application. Only pesticides authorized for use on BLM lands will be used. The use of pesticides will comply with federal and state laws. Pesticides will be used only in accordance with their registered use and limitations. The operator will contact the BLM/FFO prior to using these chemicals and provide Pesticide Use Report post treatment.
- Grazing permittees will be notified when construction is scheduled to begin. All hazards to livestock will be fenced or contained.
- All existing improvements (such as fences, gates, and bar ditches) will be repaired to previous or better than pre-construction conditions. Cut fences will be tied to H-braces prior to cutting and openings will be protected as necessary during construction to prevent the escape of livestock. A temporary closure will be installed on the same day as the fence is cut. Following reclamation, the fence will be reconstructed to BLM specifications.
- Self-contained chemical toilets will be provided for human waste disposal. The toilet holding tanks will be pumped, as needed, and the contents thereof disposed of in an approved sewage disposal facility. Toilets will be on-site during all operations.
- Garbage, trash, and other waste materials will be collected in a portable, self-contained, and fully-enclosed trash container during construction activities. The accumulated trash will be removed, as needed, and will be disposed of at an authorized sanitary landfill. No trash will be buried or burned on location.

- Any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site. All Spills will be reported to the Farmington Field Office.
- Best management practices (BMPs) will be maintained on all disturbed lands during construction activities to prevent migration of construction-related sediment to all adjacent wetland or riparian areas. Approved sediment and erosion control BMPs will be installed and maintained until disturbed areas meet final stabilization criteria. Temporary BMPs will be used to control erosion and sediment at TUA/staging areas. Upon completion of construction, permanent erosion and sediment BMPs will be installed within the ROW.
- Prior to any soil sampling a Soil Sampling Plan will be sent to the Farmington Field Office.
- Soil sampling will be required at the locations where the old pipe will be cut after the boring has been completed. Samples should be taken within one to three feet (1-3) of the area cut and be taken below the grade of the existing pipe. Additional soil samples will be required every fifty (50) feet along the replaced line and must be taken from a depth below the existing pipe. Sampling will be done to test for presence of hydrocarbons or contaminants that may have leaked from the line. Sample results will be provided to the BLM.
- All cultural resources stipulations would be followed as indicated in the BLM Cultural Resource Records of Review. All employees, contractors, and sub-contractors of the project would be informed by the project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities on Federal and Tribal lands are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm). In the event of a cultural resources discovery during construction, the project proponent would immediately stop all construction activities in the immediate vicinity of the discovery and immediately notify the BLM. The BLM would then evaluate or cause the site to be evaluated. Should a discovery be evaluated as significant (e.g., National Register, NAGPRA, ARPA), it would be protected in place until mitigating measures can be developed and implemented according to guidelines set by the BLM.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Methods

3.1.1 Direct and Indirect Impacts

Ecosphere Environmental Services, Inc. (Ecosphere) biologists conducted a field investigation of the proposed project on October 18, 2016. The information about the existing condition of the environment is used as a baseline by which to measure and identify potential impacts from the analyzed alternatives. The analysis considered and incorporated design features, where appropriate, before arriving at the impacts described in the following sections. Impacts in this Chapter are analyzed by quantitatively estimating impacts based on the project components of the analyzed alternatives. When necessary, impacts are analyzed qualitatively. This analysis was developed using the best available science. The primary data sources used for the analysis were the data collected from the site investigations and existing geographic information system data and information from the BLM/FFO.

3.1.2 Cumulative Impacts

A Reasonably Foreseeable Development (RFD) scenario was prepared for the FFO in October 2014 (Engler et al. 2014). The RFD identified high, moderate, and low potential regions for oil development of the Mancos-Gallup Formation. Within the high potential region, full development would include five wells per Section—resulting in 1,600 completions. Within the moderate potential region, full development would include one well per Section—resulting in 330 completions. Within the low potential region, full development would include one well per Township—resulting in 30 well completions. Additionally, the RFD predicted 2,000 gas wells could be developed in the northeastern corner of the FFO.

The following methods and assumptions were used to predict the potential impact of the development predicted in the RFD.

Past Oil and Gas Development

Past oil and gas wells were identified using the State of New Mexico Oil and Natural Gas Administration and Revenue Database. Following interim reclamation, the average well pad size for past development is 0.75 acre per well pad.

Present and Future Oil Development

Based on previous development, it was assumed that development of the high potential region would involve the twinning of well pads. This is the placement of two or more wells on one well pad. The assumption for the analysis is that the development of a Section would include two twinned well pads and one single well pad—resulting in three well pads for five wells. In the moderate and low potential regions, it was assumed that development would involve single well pads.

The average well pad size for a twinned well pad was assumed to be 500 feet by 530 feet, or 6.08 acres. An additional 0.6 acre was added to account for any associated road or pipeline development—resulting in 6.68 acres of short-term disturbance. Following completion of the well, interim reclamation of the well pad and reclamation of any pipelines would occur—resulting in 1.5 acres of long-term disturbance.

The average well pad size for a single well pad was assumed to be 500 feet by 500 feet, or 5.74 acres. Again, an additional 0.6 acre was added to account for associated road or pipeline development—resulting in 6.34 acres of long-term disturbance. Following completion of the well, interim reclamation of the well pad and reclamation of any pipelines would occur—resulting in 1.5 acres of long-term disturbance.

The Random Point Tool in ArcMap was used to randomly assign points representing well pads and associated disturbance based on the RFD assumptions: five wells per section in the high potential region, one well per section in the moderate potential region, and one well per township in the low potential region. The allowed both long-term and short-term disturbance from oil development of the Mancos-Gallup Formation to be calculated for the analysis areas used in this EA.

Present and Future Gas Development

The RFD predicted 2,000 wells could be developed in the gas prone area. The average well pad size was assumed to be 555 feet by 410 feet, or 5.22 acres. An additional 0.6 acre of disturbance was added to account for associated roads and pipelines—resulting in total disturbance of 5.82 acres. Following completion of the well, interim reclamation of the well pad and reclamation of any pipelines would occur, resulting in 1.5 acres of long-term disturbance. The proposed action is located in the wet gas region.

The Random Point Tool in ArcMap was used to randomly assign points representing one well pad and associated disturbance. The allowed both long-term and short-term disturbance from gas development in the northeastern corner of the FFO to be calculated for the analysis areas used in this EA. The amount of disturbance from present and future gas development is presented by analysis area under each section of this chapter

3.2 Water Resources

3.2.1 Affected Environment

The project area is located in the Upper Colorado River Hydrologic Region, within the Cañon Largo Outlet sub-watershed. Surface water from the proposed project area would flow into Largo Canyon, an intermittent stream, which joins the San Juan River approximately 2.8 miles downstream from the project area.

The project area was surveyed for the presence of jurisdictional wetlands and other waters of the U.S. Jurisdictional waters of the U.S. are ephemeral, perennial, and intermittent bodies of water—including tributaries, wetlands, and ponds—that connect either directly or indirectly to navigable or interstate waterways. The BLM/FFO and U.S. Army Corps of Engineers Durango Regulatory Division have determined that jurisdictional waters may include USGS watercourses (i.e., "blue line" on USGS 1:24,000 topographic maps).

A field assessment was made to determine if drainages supported a defined bed-and-bank feature based on scour and deposition processes and if it was directly or indirectly connected to a navigable or interstate waterway. There is one blue line that crosses the northern TUA, but based on the field evaluation, this blue line did not exhibit signs of recent flow (e.g. an ordinary high water mark), and therefore, is not considered a jurisdictional water of the U.S. There are no perennial streams, springs, seeps, or wetlands within the proposed project or action area.

The proposed northern TUA is located within the Largo Canyon Reach #1 Ephemeral Wash Riparian Area Specially Designated Area (SDA). There are a total of 7,499 acres within the Ephemeral Wash Riparian Area SDAs within the BLM/FFO. The BLM/FFO manages these areas to facilitate attainment and maintenance of proper function condition for riparian habitats.

3.2.2 Impacts from the Proposed Action

Direct and Indirect Impacts

Potential impacts to surface water and shallow groundwater resources could occur from storm water runoff and the accidental spill of industrial fluids. The potential for these impacts would be short term during construction.

The TUAs would not be bladed or cleared, but would be brush-hogged. Vegetation cover is generally moderate throughout the analysis area. Soils would be disturbed at the bore location and in areas where equipment accesses the site. The proposed action would lead to an increase in an undetermined, but likely small, amount of sediment transport, particularly during and following storm events. Slight alterations in project area drainage patterns may also lead to an increase in sediment transport. The potential for sediment transport into Canyon Largo would be minimized through the implementation of BMPs and other preventive measures, such as re-establishment of vegetation.

Minimal amounts of hazardous materials (i.e., gas, diesel, etc.) would be used and stored within the construction area. There would be the potential for accidental spills or releases of these materials that could impact local water quality. All chemicals stored on-site would be properly contained. Any spills of non-freshwater fluids would be immediately cleaned up and removed to an approved disposal site in accordance with federal and state regulations. When riparian vegetation cannot be avoided during permitted project, the permittee is responsible to reestablish any riparian vegetation lost during construction. Cottonwoods will be replaced on a 10 to 1 ratio and willow will be replaced on a 3 to 1 ratio. Sediment barrier fences will be constructed to BLM specifications in designated riparian area active channels that may be destabilized due to construction activities, or as offsite mitigation to protect the integrity of designated riparian areas.

Cumulative Impacts

The cumulative impacts analysis area for assessing impacts to water resources is the Outlet Cañon Largo watershed. Surface-disturbance activities within the Outlet Cañon Largo watershed that may cause accelerated erosion and contribute to surface water quality include livestock grazing, vegetation management, oil and gas development (including associated roads and pipelines), and recreation.

There have been 2,728 oil and gas wells developed in the Outlet Cañon Largo watershed. These wells have resulted in approximately 6,556 acres of surface disturbance. Long-term disturbance in the watershed from oil and gas development is approximately 2,056 acres. Based on the RFD scenario (Engler et al. 2014), future oil and gas development in the Outlet Cañon Largo watershed may result in approximately 2,103 acres of short-term disturbance and 681 acres of long-term disturbance for a total of 2,784 acres. The proposed action would contribute less than 3.2 acres of short-term disturbance to cumulative amount of disturbance from oil and gas development in the Outlet Cañon Largo watershed. The proposed action would not contribute long-term cumulative impacts in the watershed.

3.3 Livestock Grazing

3.3.1 Affected Environment

The northern TUA is located within the Chavez grazing allotment (No. 05137). The southern TUA is located within the Harris Mesa grazing allotment (No. 05071). The Chavez and Harris Mesa Allotments are the analysis area for direct, indirect, and cumulative impacts to livestock grazing.

The Chavez Allotment permits cattle grazing from October 1 through April 30 and the Harris Mesa Allotment permits cattle grazing between October 1 and March 31. Table 3-1 lists the acreages of the vegetation communities found in each allotment.

Table 3-1. Acres Of Vegetation Communities Within the Chavez and Harris Mesa Allotments

Vegetation Community	Chavez Allotment (Acres)	Harris Mesa Allotment (Acres)
Grassland	610	419
Greasewood	343	217
Badland/Rock/Wash	2,192	4,884
Piñon/Juniper	2,999	7,474
Riparian	153	0
Sagebrush	782	1,249
Shadscale/Winterfat	10	13

Forage available to livestock grazing is estimated in total pounds of above-ground production (Table 3-2). Subsequently, pounds per acre based on the vegetation acreage within the allotment can be estimated. Estimations of forage per vegetation community are derived from a combination and average of United States Department of Agriculture Natural Resources Conservation Service ecological site descriptions. Badlands/Rock/Wash and Riparian areas are not included in the analysis for livestock grazing impacts as they are not key grazing communities within the BLM/FFO.

Table 3-2. Estimated forage production for key grazing communities within the planning area

Vegetation Communities for Analysis in BLM/FFO	Estimated Average Forage Production (lbs/acre)
Piñon/Juniper	70
Greasewood	400
Shadscale Saltbush/Winterfat	600
Sagebrush Grassland	300
Grassland	300

The TUA located in the Chavez allotment occurs completely in the Badlands/Rock/Wash vegetation community, which is not considered a key grazing community by the BLM/FFO.

Table 3-3 reports available forage, reported in pounds, for each key grazing community in the Harris Mesa Allotment. Based on the vegetation acreage, there are 119 pounds per acre available for grazing in the Harris Mesa allotment.

Table 3-3. Available forage within the Harris Mesa allotment

Vegetation Community	Available Forage (lbs)
Piñon-Juniper	523,180
Greasewood	86,800
Shadscale Saltbush/ Winterfat	7,800
Sagebrush Grassland	374,700
Grassland	125,700
Total	**1,118,180**
Total acres	**9,372**
Average pounds per acre	**119**

The proposed TUA located within the Harris Mesa allotment is composed of approximately 1 acre of the Piñon/Juniper vegetation community, and 0.72 acre of the Shadscale Saltbush/Winterfat community. There are approximately 205 pounds of potential forage located within the proposed project area, based on the average pound per acre in the allotment.

A barbed-wire fence is located in the southern TUA, and would be cut during construction to allow equipment access to the bore site. Williams Four Corners would repair the fence following completion of construction.

3.3.2 Impacts from the Proposed Action

Direct and Indirect Impacts

The proposed TUAs will result in approximately 3.2 acres of total disturbance, 1.7 of which would occur in the Chavez Allotment, and the remaining 1.7 acres would occur in the Harris Mesa allotment. The

proposed TUA located in the Chavez allotment is located in the Badlands/Rock/Wash vegetation community, which is not considered a key grazing community in the BLM/FFO. There would be no direct impacts to forage in the Chavez allotment. Disturbance within the Harris Mesa allotment represents approximately 0.01 percent of the total allotment vegetation acreage. All disturbance within the TUAs would be short term, as areas would be reclaimed following construction. Direct impacts to livestock grazing include the short-term loss of 205 pounds of potential forage within the Harris Allotment (Table 3-4).

Table 3-4. Estimated short-term disturbance to livestock grazing within the Harris Mesa allotment

Acreage and Forage Production Description	Proposed Project Short-Term Disturbance	Proposed Project Long-Term Disturbance
Disturbance estimated acreage (acres)	1.7	0
Disturbance estimated forage loss (pounds)	490	0
Disturbance forage loss of total estimated production	0.04 percent	0

Additional short-term impacts may include displacement of permitted livestock during construction activities or exposure of livestock to hazards. Livestock could become trapped in any open trenches or holes during construction. There would be a potential for livestock collisions with equipment and vehicles working in the area. However, livestock would be expected to avoid the area due to increased noise and activity. Livestock could come into contact with chemicals or fluids stored on-site. Any spills would be promptly cleaned up, and Williams Four Corners maintains an emergency response plan. All chemicals or fluids stored on-site would be properly contained and would have secondary containment

Cumulative Impacts

The analysis area for cumulative impacts is the Harris Mesa Grazing allotment. There would be no measurable impacts to livestock grazing resources within the Chavez allotment. Past, present, and reasonably foreseeable actions that may impact available forage for livestock grazing in these two allotments include oil and gas wells and associated pipelines and roads; community development; and vegetation management.

Table 3-5 summarizes the reasonably foreseeable future forage impacts in the Harris Mesa allotment which is based on 26 potential wells. Oil and gas development in the Harris Mesa allotment may result in 147 acres of disturbance, 108 acres of which would be short-term disturbance after successful reclamation, and 39 acres would be long-term disturbance.

Table 3-5. Reasonably foreseeable impacts to livestock grazing from oil and gas development within the Harris Mesa allotment

Acreage and Forage Production Description	Reasonably Foreseeable Short-Term Disturbance	Reasonably Foreseeable Long-Term Disturbance	Reasonably Foreseeable Total Disturbance
Disturbance (acres)	108	39	147
Estimated forage loss (pounds)[1]	12,733	4,641	17,493
Forage loss of total estimated production (%)[2]	1.1	0.4	1.5

[1]Assumes 119 pounds per acre available forage.

[2]Assumes 1,118,180 pounds available in Harris Mesa allotment.

Cumulatively, the reasonably foreseeable disturbance from oil and gas development in the allotment would be approximately 147 acres, or approximately 1.0 percent of the total allotment acreage. Based on an estimated average 119 pounds/acre, there would be a short-term loss of approximately 12,791 pounds of forage (approximately 1.1 percent) within the allotment. There would be no long-term disturbance from the proposed action. The proposed action would contribute approximately 3.7 acres, or approximately 2.4 percent of the RFD estimated disturbance in the allotment.

Community development within the Chavez and Harris Mesa Allotments is currently low. It is not expected to increase in the reasonably foreseeable future based on the area's current infrastructure and development rate. As housing and access roads are constructed and/or removed, vegetation available as livestock forage within the Chavez and Harris Mesa Allotments may be altered.

Vegetation management has been implemented for various purposes and in various forms throughout the FFO. Past vegetation management has likely altered forage available for livestock grazing, and potential future vegetation management on the Chavez and Harris Mesa Allotments may alter forage available for livestock grazing.

3.4 Noxious Weeds

3.4.1 Affected Environment

In the San Juan Basin, noxious weeds and invasive species are frequently found in areas that have been disturbed. The re-establishment of plant communities in arid regions occurs over a longer time period than in wetter regions, which may create an increased potential for the establishment and distribution of invasive species. Invasive plant species typically develop high population densities and tend to exclude most other plant species, thereby reducing species diversity and potentially resulting in long-term effects. Some noxious and invasive weeds can change soil chemistry and some are highly toxic to livestock. Establishment and distribution of a number of designated noxious and invasive species has continued to grow within the BLM/FFO management area.

Executive Order 13112, Invasive Species (February 3, 1999), mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Also, pursuant to the Noxious Weed Management Act of 1998 (76-7D-1 to 76-7D-6 NMSA), the New Mexico Department of Agriculture (NMDA) has identified several species to be targeted as noxious weeds for control or eradication (NMDA 2009). Additionally, the BLM/FFO maintains a list of invasive and non-native plant species of concern (USDI/BLM 2003b). The FFO currently uses the NMDA noxious weed list, and while the definition of the classes is generally the same, the actual list and designations for species can be different.

Listed weed species are broken into class designations A, B, and C. Class A species are identified as non-native with limited or no distribution. Eradication and prevention of infestation of these species is of the highest priority. Class B species are described as non-native plants that have been found in limited areas of the field office management area, and containment and prevention are priorities. The Class C designation is defined as non-native plants currently widespread throughout the management area and "long-term programs" to control the species are encouraged (USDI/BLM 2003b). The NMDA has also identified species that fall under a "Watch List." Watch List species are species of concern in the state. These species have the potential to become problematic. The BLM/FFO have identified 212 invasive and poisonous weed species on BLM/FFO managed land.

The entire Outlet Cañon Largo watershed (235,500 total acres) has been inventoried for noxious weeds by the BLM/FFO. Of the 235,500 acres, approximately 45.15 acres have been identified to have Class A, B, and/or C species. Species inventoried include Russian knapweed (*Acroptilon repens*; a Class B species), saltlover (*Halogeton glomeratus*; an NMDA Class B species), musk thistle (*Carduus nutans*; a BLM/FFO Class C and NMDA Class B Species), and Canada thistle (*Cirsium arvense*; a BLM/FFO Class B and NMDA Class A species). Treatment and management of noxious and invasive weeds occurs throughout the BLM/FFO management area. Approximately 2,000 to 5,000 acres are treated annually, utilizing integrated pest management practices, including chemical, mechanical, and physical techniques.

During the biological field surveys of the proposed project area, saltcedar (*Tamarix* spp.), a BLM/FFO and NMDA Class C species, was found throughout the northern TUA. Saltlover (*Halogeton glomeratus*), a was found in the southern TUA near the northwestern corner. Cheatgrass, a NMDA C species was scattered throughout the southern TUA. Spiny cocklebur (*Xanthium spinosum*), a NMDA watch list species, was found scattered throughout the project area.

Russian thistle was found scattered in both of the proposed TUAs. Although this species is not included on the Federal, BLM, or NMDA noxious weed lists, it is known to outcompete desirable, native vegetation (Whitson et al. 1992).

3.4.2 Impacts from the Proposed Action

Direct and Indirect Impacts

The analysis area for direct and indirect impacts is the proposed project area. The impact indicator for analysis is the acres of surface disturbance associated with the proposed action. The proposed project would result in short-term surface disturbance of 3.2 acres. Noxious weeds and invasive species are generally tolerant of disturbed conditions and disturbed soils within the proposed project area could

provide an opportunity for the spread of existing weeds or the introduction and establishment of additional noxious weeds and invasive species.

Direct and indirect impacts by the proposed action would be reduced since Williams Four Corners will be responsible for treatment of noxious weeds within the project area. Implementation of design features and a reclamation plan would reduce the likelihood of weed establishment and distribution. Halogeton (saltlover) will be treated in accordance with BLM guidelines. Cheatgrass, saltcedar, and Russian thistle will not be treated unless the population density precludes revegetation success over time.

The establishment of invasive species, particularly annual grasses, such as cheatgrass, which produce large amounts of easily ignitable fuel over large contiguous areas, may also alter fire regimes. This situation may result in an increase in the frequency and intensity of wildfires. In some areas, such as in some desert-scrub communities, a fire regime may be created where none was present before. In plant communities that are not adapted to frequent or intense fires, native species, particularly shrubs and trees, may be adversely affected, and their populations may be greatly reduced, creating opportunities for greater increases in noxious weeds and invasive species populations (Brook and Pyke 2001). Increases in fire frequency or severity may thus result in a reduction of biodiversity and may promote the conversion of some habitats (e.g., forest, shrubland, or shrub-steppe) to other types, prolonging or preventing the development of mature native habitats (USDI/BLM 2007).

Cumulative Impacts

The cumulative impacts analysis area for assessing impacts to noxious and invasive weeds is the Outlet Cañon Largo watershed. Surface-disturbance activities within the watershed that may contribute to the establishment and distribution of noxious and invasive weeds include: livestock grazing, vegetation management, oil and gas development (including associated roads and pipelines), and recreation.

Livestock grazing and level of intensity may impact the establishment and spread of noxious weeds in the analysis area. Livestock grazing is closely managed by both landowners and land management agencies. Livestock grazing is expected to continue at the same rate and in the same manner as it currently occurs. As such, impacts would be similar to those that are ongoing and would not likely increase beyond the current state.

Vegetation manipulation and management activities, such as sagebrush clearing and prescribed fires, impact vegetation and are often implemented by land managers. These activities are likely to occur at varying levels in the analysis area in the future, however it is not possible to predict when and to what extent with any certainty.

There have been 2,728 oil and gas wells developed in the Outlet Cañon Largo watershed. These wells have resulted in 6,556 acres of surface disturbance. Based on the RFD (Engler, et al. 2014), future oil and gas development in the Outlet Cañon Largo watershed may result in 2,103 acres of short-term disturbance and 681 acres of long-term disturbance for a total of 2,784 acres of surface disturbance. Past and present disturbance has resulted in approximately 45.15 acres of identified noxious and invasive species in the Outlet Cañon Largo watershed. When combined with past, present, and reasonably foreseeable actions, the proposed action would contribute 3.2 acres of short-term disturbance, which overlaps existing disturbance, to the cumulative amount of disturbance in the Outlet Cañon Largo watershed.

3.5 Public Health and Safety

3.5.1 Affected Environment

The proposed project would comply with the use and disposal of hazardous materials as regulated primarily under RCRA outlined above in Section 1.5.6. No extremely hazardous substances (40 CFR 355) would be used during the Proposed Action. Hazardous substances that may be found at the site may include minimal quantities of materials that may be necessary welding or gluing. Flammable or combustible substances such as fuels and aids/gels (corrosives) associated with vehicles and the welding processes may also be found at the site. These materials may include oil, fuel, hydraulic fluid, and coolants. These chemicals are subject to reporting under the Emergency Planning and Right-to-Know Act of 1968 and may be used, produced, stored, transported or disposed of in association with the proposed project. Releases of non-freshwater fluids would be promptly handled in accordance with applicable federal and state regulations. Waste disposal would be made in accordance with applicable federal and state regulations and at permitted facilities.

Non-hazardous solid waste generated at the proposed project area would be stored in appropriate containers and disposed of at an approved facility. Human solid and liquid wastes would be generated primarily during the construction phases of the project and would be contained within portable facilities at the site.

Worker safety is regulated under the Occupational Safety and Health Act of 1970 (OSHA), as amended (29 USC 651). Safety practices in accordance with OSHA would be followed at all times during the project. Standard safety procedures for the proposed project would include pipeline markers, monitoring, and inspections that are required by federal and state regulations.

The proposed project area is fairly remote and roads in the area are generally unimproved dirt roads used to access natural gas facilities and a few remote residents in the area. These roads may become hazardous or impassable during periods of inclement weather. Exposure of the public to activities associated with the Proposed Action is limited by the remoteness of the location and proximity to areas where the general public may occur. The nearest town, Bloomfield (population 7,801 [U.S. Census Bureau 2015]), is approximately 17.6 road miles to the west, and U.S. Highway 64 is located approximately 8.06 miles to the north. There are very few residents or recreationist in the area. There are no BLM SMA's managed for recreation located within the Cañon Largo Outlet sub-watershed. The closest residence to the proposed project area is approximately 5.4 miles southwest.

All Williams Four Corners Field Service employees maintain a safety and emergency response plan at all times. This plan provides guidance on safety procedures, how to respond to an emergency, and the required notifications, along with all pertinent contact numbers. Additionally, all Williams Four Corners Field Service contractors are required to maintain a safety and emergency response plan.

3.5.2 Impacts from Alternative B: Proposed Action

Direct and Indirect Impacts

The proposed project would be located within an existing oil and gas field currently experiencing concentrated development. Risks to public health and safety associated with the Proposed Action include increased traffic on public roads, wildfire, pipeline leakage, rupture, fire, explosion, and operation of construction equipment. Additional public health and safety risks include spills or releases of wastes, chemicals, or hazardous materials.

Under the proposed action, increased use and frequency of construction vehicles, heavy equipment, chemicals and personnel in the area could result in a safety issue for the public. Transportation issues are a primary safety concern. Vehicles associated with the oil and gas industry utilize the developed highway and county road systems. In addition, the oil and gas industry constructs and utilizes dirt access roads in the area. These roads, most of which are accessible by the public, are often hazardous, particularly during and following periods of inclement weather. Therefore, there would be an increased potential for traffic accidents. Dust associated with construction activities or travel on dirt access roads may result in poor visibility in the area. Following construction, traffic levels would return to current levels; long-term effects on transportation would be positive due to the reduction of truck traffic from the piping of products from multiple well locations in the Cañon Largo area. Design Features and BMPs for dust abatement and erosion control (e.g. water application) would be utilized to reduce fugitive dust and adverse road conditions.

Material Safety Data Sheets (MSDS) are available at the project site at all times for all chemicals, compounds and/or substances which would be used during any phase of the Proposed Action. In the event of a release, notification would be made in compliance with CERCLA and the national BLM Notice of Lessees (NTL)-3A, as well as any state requirements. Design Features and BMPs outlined in Section 2.2.2. (Description of Proposed Project) would be followed to minimize potential impacts from hazardous and non-hazardous wastes. Adherence to company safety policies and BLM-FFO stipulations would mitigate public health and safety hazards. The hauling of project equipment and materials on public roads would comply with all Department of Transportation regulations. All work associated with the Proposed Action would be performed in compliance with appropriate OSHA regulations.

Health and safety risks for construction workers include operation of heavy equipment, welding activities, and working in the vicinity of other utilities (primarily other oil and gas gathering pipelines). Although unlikely, well explosions, blowouts and fire are considered possible risks. Williams Four Corners maintains an emergency response plan and all personnel have been trained in industry standard safety practices to prevent and respond to emergencies. Personnel are trained and certified on a regular basis in order to be current on safety procedures and emergency response protocol. The Association of Mechanical Engineers (ASME) and American Petroleum Institute (API) issue standards for design, construction, installation, and maintenance of pressure vessels, fittings, piping, and pipelines. Williams Four Corners personnel and their contractors would build, operate, and maintain all equipment and pipeline according to these standards, which are intended to minimize the potential for explosions and failure of the equipment.

Cumulative Impacts

The analysis area includes the proposed project area and the existing oil and gas field within the BLM-FFO regional management area. The general BLM-FFO region has been developed by the oil and gas industry for over six decades, which contributes to public health and safety concerns in the area.

Transportation issues are a primary safety concern. Vehicles associated with the oil and gas industry utilize the developed highway and county road systems. In addition, the oil and gas industry constructs and utilizes dirt access roads in the area. These roads, most of which are accessible by the public, are often hazardous, particularly during the following period of inclement weather. The proposed project would cumulatively reduce the amount of truck traffic from the multiple wells over time through the piping of all products from wells within the Cañon Largo area.

Given the fact that the Proposed Action would be located within an existing oil and gas field, direct and indirect cumulative impacts to public health and safety as well as to worker safety would not be measurably different when compared to those from past present and reasonably predicted future activities.

3.6 Cultural Resources

3.6.1 Affected Environment

BLM Manual 8100, The Foundations for Managing Cultural Resources (2004) defines a cultural resource as:

> *a definite location of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence. The term includes archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. (cf. "traditional cultural property"). Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit described in this Manual series. They may be but are not necessarily eligible for the National Register (a.k.a. "historic property").*

In the broadest sense cultural resources include sites, buildings, structures, objects, and districts/landscapes (NPS 1997). Cultural resources (prehistoric or historic) vary considerably, and can include but are not limited to simple artifact scatters, domiciles of various types with a myriad of associated features, rock art and inscriptions, ceremonial/religious features, and roads and trails. Traditional Cultural Properties (TCPs) are cultural resources that are eligible for the National Register of Historic Places (NRHP) and have cultural values, sometimes sacred, that transcend for instance the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites and may or may not coincide with archaeological sites (Parker and King 1998). Historically Native American communities are most likely to identify TCPs, although TCPs are not restricted to those associations. Some TCPs are well known while others may only be known to a small group or otherwise only vaguely

known. Native American tribal perspectives on what is considered a TCP are not necessarily limited by a places National Register eligibility or lack thereof.

The National Register of Historic Places (NRHP; 36 CFR Part 60) is the basic benchmark by which the significance of cultural resources are evaluated by a federal agency when considering what effects its actions may have on those resources. To summarize, to be considered eligible for the NRHP a cultural resource must meet one or more of the following criteria: a) are associated with events that have significantly contributed to the broad patterns of our history; or b) are associated with the lives of persons significant in our past; or c) embody distinctive characteristics of the type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or d) have yielded, or may be likely to yield, information that is important in a pre-history or history. The resource, as applicable to its eligibility criteria, must also possess one or more of the following aspects of integrity; location, design, setting, materials, workmanship, feeling, and association. In the event a determination of eligibility cannot be made, the resource is treated as eligible (a historic property). Historically in the FFO approximately 80±% of the sites are determined eligible or treated as eligible.

Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR Part 800) requires federal agencies to consider what effect their licensing, permitting, funding or otherwise authorizing an undertaking, such as an APD or R-O-W, may have on properties eligible for the NRHP. Pursuant to 36 CFR 800.16 (i), "Effect means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." Effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative. Area of Potential Effect (APE) means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is typically defined as areas to be directly disturbed and areas in immediate close proximity. Cultural resources are identified and reported through a combination of literature review and pedestrian survey consistent with guidelines set forth in the Procedures for Performing Cultural Resources Fieldwork on Public Lands in the Area of New Mexico BLM Responsibilities (BLM 2005).

BLM Farmington Field Office compliance with Section 106 of the National Historic Preservation Act is adhered to by following the State Protocol Agreement between New Mexico BLM and New Mexico State Historic Preservation Officer (BLM-SHPO 2014), which is authorized by the National Programmatic Agreement among the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (NPA 2012), and other applicable BLM handbooks.

The Proposed Action is located within the archaeologically rich San Juan Basin of northwest New Mexico. In general, the history of the San Juan Basin can be divided into five major periods: PaleoIndian (ca. 10000 B.C. to 5500 B.C.), Archaic (ca. 5500 B.C. to A.D. 400), Basketmaker II-III and Pueblo I-IV periods (aka Anasazi; A.D. 1-1540), and the historic (A.D. 1540 to present), which includes Native American as well as later Hispanic and Euro-American settlers. Detailed descriptions of these various periods are provided in the Bureau of Land Management Farmington Field Office Final Environmental Impact Statement (2003) and are incorporated by reference. Additional information can also be found in an associated documented, Cultural Resources Technical Report (SAIC 2002).

The Impact Analysis Area for cultural resources is the Proposed Action APE and the Outlet Canon Largo watershed. Watersheds can be viewed as a naturally defined landscape and impacts to cultural resources in one part of that landscape could, theoretically, affect a broader understanding of the interrelationships between sites in the landscape as a whole. The boundaries are distinguished by hydrographic and topographic criteria that delineate an area of land upstream from a specific point on a river, stream or similar surface waters (USGS 2013, NRCS 2013). The next to smallest hydrologic unit area, typically from 40,000-250,000 acres (62- 390mi²; HUC 10) or combination thereof is used for the analysis.

The Outlet Canon Largo watershed is 235,499 acres. Based on New Mexico Cultural Resource Information System data (NMCRIS; May, 2016), there are 2,008 recorded sites and approximately 11% of the subwatershed (26,485 ac) has been inventoried for cultural resources by 2,375 unique investigations since 1975. This is a site density of 1/13 acres. Approximately 80% of the sites (n≈1,606) are historic properties (eligible for the NRHP). According to NMCRIS data approximately 17% of the historic properties (n≈335) have some disturbance attributed to "construction", presumably from actions conducted prior to the National Historic Preservation Act of 1966 and regular implementation in the early-mid 1970s of cultural resources studies in advance of development. The current cultural inventory coverage is likely higher as not all survey and site data is digitally available (e.g., Navajo lands, surveys since May, 2016).

Within the Outlet Canon Largo watershed there are 25 places of traditional religious and cultural importance. Current data does not provide information on condition and none have been evaluated for the NRHP. Certain examples such as historic graves are typically not considered historic properties.

Within the Outlet Canon Largo watershed there 26 properties listed on the National Register of Historic Places. These include Crow Canyon Archaeological District, Overlook Site (LA 10732), Foothold Ruin (LA 9073), Pointed Butte Ruin (LA 10733), Compressor Station Ruin, Rincon Largo Ruin, Tower of the Standing God (LA 55839), Canyon View Ruin (LA 55827), Kin Yazhi (Little House), Truby's Tower, Unreachable Rockshelter (LA 55841), Hadlock's Crow Canyon #1 (LA 55830), Cottonwood Divide Site (LA 55829), Star Rock Refuge (LA 55838), Gould Pass Ruin, Wall, The (LA 55840), Citadel, The (LA 55828), Shaft House, Ridge Top House (LA 6287), Boulder Fortress (LA 55825), Crow Canyon Site (LA 20219), Tapacito Ruin (LA 2298), Hooded Fireplace Ruin (LA 5662), Largo School Ruin (LA 5657), Split Rock Ruin, and Pork Chop Pass Site (LA 5661). The Proposed Action is >10 miles from any Chaco Protection Sites, or World Heritage Sites. The designated route of the Old Spanish National Historic Trail is within the analysis area.

The entire APE for the Proposed Action was archaeologically surveyed by Western Cultural Resource Management, Inc. (WCRM) at a BLM Class III level (100%) and a report was prepared and submitted to the BLM.

For the Proposed Action, places of traditional religious and cultural importance (e.g., TCPs) were identified by reviewing existing published and unpublished literature (e.g. Van Valkenburgh 1941, 1974; Brugge 1993; Kelly et al. 2006), and the site-specific Class III survey report prepared for the Proposed Action. In addition, the BLM's cultural resources program was contacted for information regarding the presence of places of traditional religious and cultural importance identified through ongoing BLM tribal consultation efforts. Taahooteel (Largo Canyon delta) based upon ethnographic information is located

northwest of the project in the vicinity of the confluence of the Largo Wash and San Juan River. The area is associated with early Navajo clan farms.

The Lateral H3 Pipeline is on BLM surface. The Class III inventory identified no cultural sites within the APE (WCRM Report WCRM(F)1448. The proposed pipeline is within previous natural ground disturbance of the Cañon Largo Wash and the wash modified the surface so extensively that the likelihood of finding cultural properties is negligible.

Old Spanish National Historic Trail

The congressionally designated route of the Old Spanish National Historic Trail (OST) is in the vicinity of the project. On November 6, 1829 Santa Fe merchant Antonio Armijo led 30-60 men and pack mules on an 86 day journey from Abiquiu to San Gabriel Mission. Armijo's journal (Hafen and Armijo 1947) indicates that he passed through this area November 13-14. He left San Gabriel Mission on March 1, 1830 following the same route, arriving home on April 25, 1830, having completed the first round trip trade caravan between New Mexico and California. Armijo apparently used this route only once, and subsequently routes farther to the north took precedence. The OST is a term used largely after the period of significant use and the name Spanish Trail is attributed to John C. Fremont in 1845 and presumably takes its name from the Spanish colonies in northern New Mexico and southern California that were economically linked by this rugged route. During the period of significance (1829-1847) the trail went by the name El Camino de California and El Camino de Nuevo Mexico (Merlin, Marshall, Roney 2011:6). The National Trails System Act describes the OST route as being 2,700 miles long.

There are no known traces of the OST Armijo Route in the project area and its exact location remains unknown despite decades of cultural resource surveys in the area. No cultural sites were identified within the APE as being associated with the OST temporally or culturally. The National Trail Management Corridor has not yet been designated for the OST in the project vicinity. There are currently no high potential route segments or high potential historic sites related to the period of significance for the OST in this area. No trails, overlooks, interpretive sites, or other resources associated with the OST occur in the project area or vicinity. There is a high level of existing development in this area (power lines, pipelines, improved and paved roads, natural gas well locations, etc.).

3.6.2 Impacts from Proposed Action

Direct and Indirect Impacts

The Impact Analysis Area for direct and indirect impacts is the Outlet Canon Largo watershed and the APE. The impact indicator for analysis is the acres of surface disturbance and number of historic properties, properties listed on the National Register of Historic Places or New Mexico State Register of Cultural Properties, Chaco Protection Sites, World Heritage Sites, National Historic Trails, and other places of traditional religious and cultural importance in the analysis area.

No historic properties, properties listed on the National Register of Historic Places or New Mexico State Register of Cultural Properties, Chaco Protection Sites, World Heritage Sites, or other places of traditional religious and cultural importance were identified within the APE. The Proposed Action will have no direct or indirect impacts on historic properties or other places of traditional religious and cultural importance in the APE (no historic properties affected).

Cultural resources "discoveries" and risks of impacting unknown (i.e., buried) historic properties during surface disturbing components of a proposed action are infrequent in the FFO. Since FY2000, 28 discoveries have occurred in association with 21,290 actions (e.g. road, well, pipeline, etc.), or 1:760. During that period 153,626 ac of land were inspected for cultural resources, with an average of 7.2 ac per action and one discovery per 5,472 ac. All authorizations (e.g., APDs, R-O-Ws) have stipulations, under penalty of law, require the reporting of and avoidance of further disturbing cultural discoveries during a proposed action. Where the risk of discoveries can be reasonably expected (e.g., ≤ 100' of a known historic property, or in environmental settings known or suspected to be conducive to buried sites), archaeological monitoring by a qualified and permitted archaeologist during initial disturbance (e.g., blading, trenching) is normally required. If buried historic properties are discovered, collaborative steps are taken to protect them in place or recover their important information.

Old Spanish National Historic Trail

The BLM evaluates proposed projects in proximity of a National Historic Trail (NHT) per the National Trails System Act (NTSA) and BLM 6280 *Manual Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation*. Per the manual, the NEPA analysis should consider whether the project will substantially interfere with the nature and purposes of the NHT and if the activities are incompatible with the purposes for which the NHT was established. The nature and purposes involves the character, characteristics, and congressional intent for the NHT along with the resources, qualities, values, associated settings, and primary uses. An individualized nature and purpose for the Old Spanish NHT has not been defined due to the pending Old Spanish National Historic Trail Comprehensive Administrative Strategy. As a proxy, this EA utilizes the "generic" nature and purpose as defined in the NTSA as providing "for the ever-increasing outdoor recreation needs" and "to promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open-air, outdoor areas and historic resources of the Nation". Per the NTSA, the presence of recreation potential not related to historic appreciation is not sufficient justification for designation of a NHT (16 U.S.C. 1244(b)(11)(c)). A common use of a NHT includes the opportunity to vicariously share the experience of the original users of a historic route.

No physical features associated with the OST occur in the project vicinity for preservation. The proposed action would have no meaningful impact on access to the OST. Currently, there is no retracement trail in the area for the Old Spanish NHT. As noted earlier, there is a high level of existing development in this area (power lines, pipelines, improved and paved roads, natural gas well locations, etc.). There will be no visual impact due to the proposed project being temporary in nature and no above ground infrastructure will be constructed during this project.

Due to the level of existing disturbance in the project vicinity, temporary nature of the project and lack of construction of permanent surface infrastructure, the proposed action would not significantly detract from the historic recreation resources associated with the setting of this portion of the OST route. Therefore, it is unlikely that the proposed action would substantially interfere with the OST nature and purposes, or constitute an incompatible activity.

The BLM is required to evaluate whether the proposed action would substantially interfere, or be incompatible with the nature and purposes of the National Trail (Manual 6280, Section 1.6.A.2.i-ii).

- Will the BLM's ability to effectively manage the nature and purposes of the trail, trail resources, qualities, values, uses (including public access and enjoyment) and associated settings be affected?
- No. Public access and enjoyment of the Armijo Route of the OST in this area will not be affected.
- Will it require a major relocation of the National Trail Management Corridor in order to provide for the conservation and enjoyment of the nationally significant resources, qualities, values, and associated settings of the areas through which such trails may pass, or the primary use or uses of the trail?
- No. The National Trail Management Corridor has not yet been designated.
- Are the characteristics that made the trail worthy of designation, including Federal Protection Components, including high-potential historic sites or high potential route segments located on public land, are affected?
- No. Currently, there are no high potential route segments or high potential historic sites related to the period of significance for the OST in this area. There are no physical characteristics associated with the trail in the project area or adjacent surveyed area. There is a high level of existing development in this area (power lines, pipelines, improved and paved roads, natural gas well locations, etc.); there will be no impacts to the viewshed of the Old Spanish NHT due to the temporary nature of the project.
- Are designated National Historic Trail properties, including remnants and artifacts from the associated period of use that may be eligible or listed on the National Register and/or determined by the National Trail administering agency to qualify as possible high potential historic sites or high potential route segments affected?
- No. Decades of cultural resources surveys, including the survey for the project, have not identified any physical evidence of the OST within this area.
- Is the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment, including interpretation, education, appreciation, and vicarious experiences affected?
- No. Public use and enjoyment, including opportunities for interpretation, education, appreciation, and vicarious experiences are not affected.

Since it has been determined that the proposed action does not have the potential to substantially interfere with the nature and purposes, or constitute an incompatible activity, to the level that may cause significant adverse impact to the nature and purposes, no notification to the Deputy State Director and the NLCS Division Chief is required pursuant to BLM Manual 6280, Section 5.3.C.

Cumulative Impacts

The analysis area and impact indicator for cumulative impacts is the same as for direct and indirect impacts. Past, present, and reasonably foreseeable future actions within the analysis area that may also risk impacting historic properties, properties listed on the National Register of Historic Places or New Mexico State Register of Cultural Properties, Chaco Protection Sites, World Heritage Sites, National

Historic Trails, or other places of traditional religious and cultural importance from surface disturbance include the following:

- Oil and gas development, including associated roads and pipelines

2728 oil and gas wells have been developed in the Outlet Canon Largo watershed. These wells have resulted in 6555.87 acres of surface disturbance. Based on the RFD (Engler, et al., 2014), oil and gas development in the Outlet Canon Largo watershed may result in 2103.38 acres of short-term disturbance and 681 acres of long-term disturbance. This results in a total of 2784.38 acres of additional surface disturbance from oil and gas development in the Outlet Canon Largo watershed. The Proposed Action would contribute 3.2 acres of short-term disturbance and 0 acres of long-term disturbance to cumulative amount of disturbance from oil and gas development in the Outlet Canon Largo watershed.

The Outlet Canon Largo watershed has an average site density of 1/13 ac. This additional disturbance of 2784.38 acres would potentially intersect an additional 214 cultural sites and approximately 80% would be historic properties, properties listed on the National Register of Historic Places or New Mexico State Register of Cultural Properties, Chaco Protection Sites, World Heritage Sites, National Historic Trails, or other places of traditional religious and cultural importance and have the same impacts as described for direct and indirect impacts.

For the Proposed Action there will be no cumulative impact on historic properties, properties listed on the National Register of Historic Places or New Mexico State Register of Cultural Properties, Chaco Protection Sites, World Heritage Sites, National Historic Trails, or other places of traditional religious and cultural importance, if present, as they are being avoided. Reasonably foreseeable future actions will also avoid historic properties.

On average, 7.2 acres have been culturally inventoried per oil and gas project component (i.e., well pad, access road, pipeline) in the FFO since 2000. 2728 oil and gas projects have occurred in the Outlet Canon Largo watershed for a total of 60,016 inventoried acres. In addition, 454 oil and gas projects are presently being developed or reasonably foreseeable based on the 2014 RFD. These projects could result in 9,988 acres of cultural survey. Approximately 1-2 cultural resources discoveries are anticipated to occur for all oil and gas projects in the Outlet Canon Largo watershed and have the same impacts as described for direct and indirect impacts.

3.7 Environmental Justice

3.7.1 Affected Environment

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, requires that federal agencies identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations.

Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies. It focuses on environmental hazards and human

health to avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations.

Guidance on environmental justice terminology developed by the President's Council on Environmental Quality (CEQ 1997) is discussed below.

- Low-income population. A low-income population is determined based on annual statistical poverty thresholds developed by the US Census Bureau. In 2012, poverty level is based on total income of $11,720 for an individual and $23,283 for a family of four (US Census Bureau 2012a). A low-income community may include either a group of individuals living in geographic proximity to one another or dispersed individuals, such as migrant workers or Native Americans.
- Minority. Minorities are individuals who are members of the following population groups: American Indian, Alaskan Native, Asian, Pacific Islander, Black, or Hispanic.
- Minority population area. A minority population area is so defined if either the aggregate population of all minority groups combined exceeds 50 percent of the total population in the area or if the percentage of the population in the area comprising all minority groups is meaningfully greater than the minority population percentage in the broader region. Like a low-income population, a minority population may include either individuals living in geographic proximity to one another or dispersed individuals.
- Comparison population. For the purpose of identifying a minority population or a low-income population concentration, the comparison population used in this study is the state of New Mexico as a whole.

Low-income Populations

Income and poverty data estimates for study area counties from the US Census Small Area Poverty Estimates model indicate that the percent of the population living below the poverty level in the socioeconomic study area as a whole is slightly above that of the state (21.3 percent and 20.6 percent), but it is much higher than the national average of 12.1 percent (Table 3-6). Poverty levels ranged from 37.7 percent in McKinley County to 13.7 percent in Sandoval County. Only that of Sandoval County was below the state average.

Table 3-7. Study Area County Population in Poverty (2002-2012)

	McKinley County	Rio Arriba County	Sandoval County	San Juan County	Study Area Total	New Mexico	United States
Percent of Population in Poverty 2002	21,766	7,165	19,934	22,152	71,017	421,123	34,569,951
	30.2%	17.7%	11.1%	18.2%	21.3%	20.6%	12.1%
Percent of Population in Poverty 2012	27,296	8,806	18,502	25,802	80,406	327,444	48,760,123
	37.7%	22.0%	13.7%	20.3%	21.5%	17.7%	15.9%
Median Household Income 2002	$25,197	$30,557	$45,213	$34,329	N/A	$34,827	$45,409
Median Household Income 2012	$29,821	$36,900	$57,376	$45,901	N/ A	$42,828	$51,371

	McKinley County	Rio Arriba County	Sandoval County	San Juan County	Study Area Total	New Mexico	United States
Classified as Low Income Population in 2012 based on CEQ guidelines?	No	No	No	No	No	NA	NA
Source: US Census Bureau 2013							

Similarly, estimates from 2012 indicate that Sandoval and San Juan Counties had household median incomes ($57,376 and $45,901) that were above the state level of $42,828. McKinley County ($29,821) and Rio Arriba County ($36,900) were below that of the state in 2012 (Table 3-7). While no area communities meet the CEQ definition of a low-income population area (50 percent or higher), the highest poverty rates were seen in Bloomfield (29 percent), Espanola (26.3 percent), and Bernalillo (24.1 percent).

Table 3-8. Study Area Key Community Race/Ethnicity and Poverty Data

Community	% Population Racial or Ethnic Minority	Classified as Minority Population based on CEQ?	% of Individuals Below Poverty	Classified as Low-income Population based on CEQ?
Aztec	36.4%	No	14.4%	No
Bernalillo	78.8%	Yes	24.1%	No
Bloomfield	55.8%	Yes	29.0%	No
Espanola	91.6%	Yes	26.3%	No
Farmington	48.8%	No	15.5%	No
Gallup	76.9%	Yes	20.9%	No
Rio Rancho	46.7%	No	9.8%	No
Source: US Census Bureau 2012b Note: American Community Survey estimates are based on data collected over a 5-year time period. The estimates represent the average characteristics of populations between January 2008 and December 2012 and do not represent a single point in time.				

Census Tracts are geographic regions within the United States that are defined by the US Census Bureau in order to track changes in a population over time. Census Tracts are based on population sizes and not geographic areas. The average population of a Census Tracts is about 4,000 people, so rural areas that are sparsely populated may have very large Census Tracts while densely populated urban areas may have very small Census Tracts.

When broken down by Census Tract, 3 out of 87 tracts in the socioeconomic study area have greater than 50 percent of individuals living below the poverty line: Census Track 9440 in eastern McKinley County had an individual poverty rate of 54.6 percent; Census Tract 9405 in southwestern McKinley County had an individual poverty rate of 59.4 percent; and Census Tract 9409 in northwestern Sandoval County had an individual poverty rate of 51.9 percent (US Census Bureau 2012b). These 3 Census Tracts are all relatively large, indicating a sparsely populated, rural area.

Minority Populations

Based on 2008-2012 data, minorities made up 59.5 percent of the population in New Mexico, compared to 36.3 percent in the United States as a whole (Table 3-8). The proportion of minorities in the socioeconomic study area (65.3 percent) substantially exceeded the United States and is slightly higher than the state average. At the county level, the population ranged from 89.7 percent minority in McKinley

County to 52.8 percent in Sandoval County. Within relevant tribal nations, Native Americans represented the vast majority of the population. The largest minority groups were Hispanics/Latinos in Rio Arriba and Sandoval Counties and Native Americans in McKinley and San Juan Counties.

Table 3-9. Study Area County Population by Race/Ethnicity (2008-2012)

Population	McKinley County	Rio Arriba County	Sandoval	San Juan	Study Area	New Mexico	United States	Jicarilla Apache Nation	Navaho Nation	Ute Mountain Nation
Hispanic or Latino ethnicity of any race	9,744	28,714	46,334	24,496	109,288	952,569	50,545,275	382	2,958	99
	13.6%	71.4%	35.3%	19%	29%	46.3%	16.4%	11.6%	1.7%	6.0%
White alone	7,413	5,370	61,977	54,218	128,978	831,543	196,903,968	74	3,762	47
	10.3%	28.6%	47.2%	42.2%	34.67%	40.5%	63.7%	2.3%	2.2%	2.9%
Black or African American alone	353	149	2,704	794	4000	35,586	37,786,591	0	250	5
	0.5%	0.4%	2.1%	0.6%	1.08%	1.7%	12.2%	0%	0.1%	0.3%
American Indian or Alaskan Native alone	52,358	5,629	15,964	46,676	120,627	176,766	2,050,766	2,692	162,920	1,429
	72.8%	14.0%	12.2%	36.3%	32.43%	8.6%	0.7%	82.0%	94.3%	87.0%
Asian alone	506	173	1,685	464	2828	25,411	14,692,794	73	834	14
	0.7%	0.4%	1.3%	0.4%	0.76%	1.2%	4.8%	2.2%	0.5%	0.9%
Native Hawaiian and Other Pacific Islander alone	38	7	100	72	217	989	480,063	0	209	0
	0.1%	0%	0.1%	0.1%	0.06%	<.01%	0.2%	0%	0.1%	0%
Some Other Race	7	22	437	84	550	3,623	616,191	0	102	0
	<.01%	0.1%	0.3%	0.1%	0.15%	0.2%	0.2%	0%	0.1%	0%
Two or more Races	1,469	137	2,101	1,796	5,503	28,800	6,063,063	62	1,660	49
	2.0%	0.3%	1.6%	1.4%	1.48%	1.4%	2.0%	1.9%	1.0%	3.0%
Classified as Minority Population based on CEQ guidelines?	Yes	Yes	Yes	Yes		Yes	NA	Yes	Yes	Yes

Source: US Census Bureau 2012b
Note: American Community Survey estimates are based on data collected over a 5-year time period. The estimates represent the average characteristics of populations between January 2008 and December 2012 and do not represent a single point in time

Based on the CEQ definition of a minority population area (minority residents exceed 50 percent of all residents), Bernalillo, Bloomfield, Espanola, and Gallup all are considered minority communities.

When examined at the Census Tract level, there are 24 out of 87 tracts that have a minority population greater than 50 percent. These range from Census Tract 6.1 located just north of the city of Aztec with a minority population of 80.5 percent to Census Tract 107.17 located north of the city of Rio Rancho with a

minority population of 50.2 percent (US Census Bureau 2012b). These Census Tracts are relatively small and are based around the city of Rio Rancho and the Aztec/Farmington/Bloomfield area.

Native American Populations

Data in Table 3-8 account for a substantial portion of the study area population in some areas, notably McKinley and San Juan Counties, where the population is 72.8 and 36.3 percent American Indian respectively. Three tribal governments have reservations within the planning area: the Jicarilla Apache Nation, the Navajo Nation, and the Ute Mountain Nation (Table 3-9). The Southern Ute Nation has lands just north of the planning area in the state of Colorado, but none within the planning area. Almost one half of the planning area is tribal lands. Each tribe maintains a general concern for protection of and access to areas of traditional and religious importance, and the welfare of plants, animals, air, landforms, and water on reservation and public lands. Policies established in 2006 by the BLM and US Forest Service, in coordination with federal tribes, ensure access by traditional native practitioners to area plants. The policy also ensures that management of these plants promotes ecosystem health for public lands. The BLM is encouraged to support and incorporate into their planning traditional native and native practitioner plant-gathering for traditional use (Boshell 2010).

Table 3-10. Tribal Nations in the Planning Area

Tribe	Acres in Planning Area	General Location
Jicarilla Apache Nation	739,600	The majority of the Jicarilla Apache Nation is located in western Rio Arriba County, but within the eastern portion of the planning area
Navajo Nation	860,900	A portion of the Navajo Nation extends into western San Juan County and into the western portion of the planning area
Ute Mountain Nation	103,500	A portion of the Ute Mountain Nation extends into the northern portion of San Juan County, just east of the Navajo Nation, and into the northern portion of the planning area
Unknown	196,300	Lands located in the southern portion of the planning area [Note to BLM: this is due to inconsistencies between US Census Bureau tribal areas dataset and BLM land status dataset.]
Source: BLM GIS 2014, US Census Bureau 2014		

3.7.2 Impacts from Alternative B: Proposed Action

Direct and Indirect Impacts

As noted in the PRMP/FEIS, most activities, including oil and gas development on federal land in the San Juan Basin occur without influence of demographic or income values. They are primarily the response of various resource values and are balanced for overall public benefit. San Juan County, along with the other counties that make up the larger development area, has a high proportion of minority populations compared to the state and national percentages. San Juan County has a distinctly high percentage of American Indians, while Rio Arriba has a large Hispanic population. The poverty levels for all counties, except Sandoval County were higher than the state and national level. As such, the potential exists for minority and low-income populations to be affected by the proposed action.

Specific issues of concern outlined in the PRMP/FEIS include the potential for economic impacts (such as job losses or increases), potential for land use impacts (as outlined in previous sections), and the potential

for conditions that pose a public health or safety risk. The replaced segment of the Lateral H-3 Pipeline at the Largo Canyon crossing to repair a line leak in the existing pipeline would allow Williams Four Corners to continue providing natural gas and oil for the national energy market. This would generate federal and state tax revenues as well as revenue for Williams Four Corners, its contractors, and additional jobs, royalties, and revenues to local economies. The additional jobs and economic activity in the region from oil and gas development have the potential to benefit local communities and residents and is considered a positive effect. The proposed pipeline would be part of the needed pipeline infrastructure for the larger scale oil and gas development in the region. Potential land use impacts and public health and safety risks have been addressed in both previous sections of this document and/or the PRMP/FEIS. Project specific design features and best management practices (Section 2.2.2), as well as stipulations in the ROW Grants, help to reduce adverse impacts to the surrounding communities as they relate to land use and public health and safety. See PRMP/FEIS for further discussion of Environmental Justice (BLM 2003a).

Cumulative Impacts

The analysis area is the BLM-FFO regional management area. The proposed action would contribute to the effects of the local economy in the form of increased natural gas production, and increased revenues. Any additional well development and production in the area would result in incremental impacts to local economy. The energy industry is subject to boom and bust cycles. However, the continued development of these resources still represents a desirable economic engine. With the development of these resources being concentrated in Rio Arriba and San Juan counties that both have disproportionately minority population, benefits from growth in resource development both federal and non-federal interests would provide jobs and therefore benefit these groups (BLM 2003a, 4-129).

4. SUPPORTING INFORMATION

4.1 Tribes, Individuals, Organizations, or Agencies Consulted

The BLM fulfills its responsibilities under the NHPA through a number of agreements. The National Programmatic Agreement (NPA) (USDI/BLM 2012) between the BLM, Advisory Council on Historic Preservation (ACHP), and the National Council of State Historic Preservation Officers allows the agency to fulfill its NHPA responsibilities according to the provisions of the NPA in lieu of 36 CFR 800.3 through 800.7 regulations. The NPA, which applies to all BLM activities below specified thresholds, provides among other things, regulatory relief in many instances from the requirement for case-by-case review by SHPOs and the ACHP, in exchange for managers' maintenance of appropriate staff capability and observance of internal BLM standards as set out in the 8100 Manual series.

The New Mexico BLM has a two-party protocol with the New Mexico State Historic Preservation Officer (SHPO) (USDI/BLM, SHPO 2014) specifically encouraged by the NPA. This protocol details how the New Mexico BLM and SHPO will regulate their relationship and consult. Specifically, this document outlines among other things, how and when consultation will be conducted between the BLM, SHPO, Tribes, and the public. The protocol also outlines when case-by-case SHPO consultation is or is not required for specific undertakings and the procedures for evaluating the effects of common types of undertakings and resolving adverse effects to historic properties. These common types of undertakings regularly include the common actions undertaken in the BLM/FFO. Table 4-1 contains a list of tribes, individuals, organizations, and agencies invited to attend the on-site for the project.

Table 4-1. Individuals, organizations, and agencies invited to the on-site

Name	Tribe, Organization, or Agency	Attended On-Site
Thomas Singer	Western Environmental Law Center	No
Mike Eisenfeld	San Juan Citizens Alliance	No
Sarah White	Interested Public	No
Kyle Tisdale	Western Environmental Law	No
Erik Schlenker-Goodrich	Western Environmental Law	No
Samantha Ruscavage-Barz	WildEarth Guardians	No
Tim Ream	WildEarth Guradians	No
Victoria Gutierrez	Interested Public	No
Pete Drokers	Earthworks	No
Jeremy Nichols	WildEarth Guardians	No
Anson Wright	Chaco Alliance	No
Bruce Baizel	Earthworks	No
Tweetie Blancett	Interested Public	No
Lori Goodman	Diné Care	No
Penny Anderson	Western Resource Advocates	No
Samuel Sage	Counselor Chapter – Navajo Nation	No
Don Schrieber	Interested Public	No

4.2 List of Preparers

This EA was prepared by Ecosphere in conformance with the standards of, and under the direction, of the BLM/FFO. The following individuals assisted in the preparation of this EA:

- Tamara Faust, Realty Specialist – BLM/FFO
- Craig Townsend, Natural Resource Specialist – BLM/FFO
- Kylan Frye, Biologist – Ecosphere
- Lindsay Gartner, GIS Specialist – Ecosphere
- Joey Herring, Project Manager/Senior Biologist – Ecosphere
- Marcella Martinez, Planning and Environmental Specialist – BLM/FFO
- Heather Perry, Natural Resource Specialist – BLM/FFO

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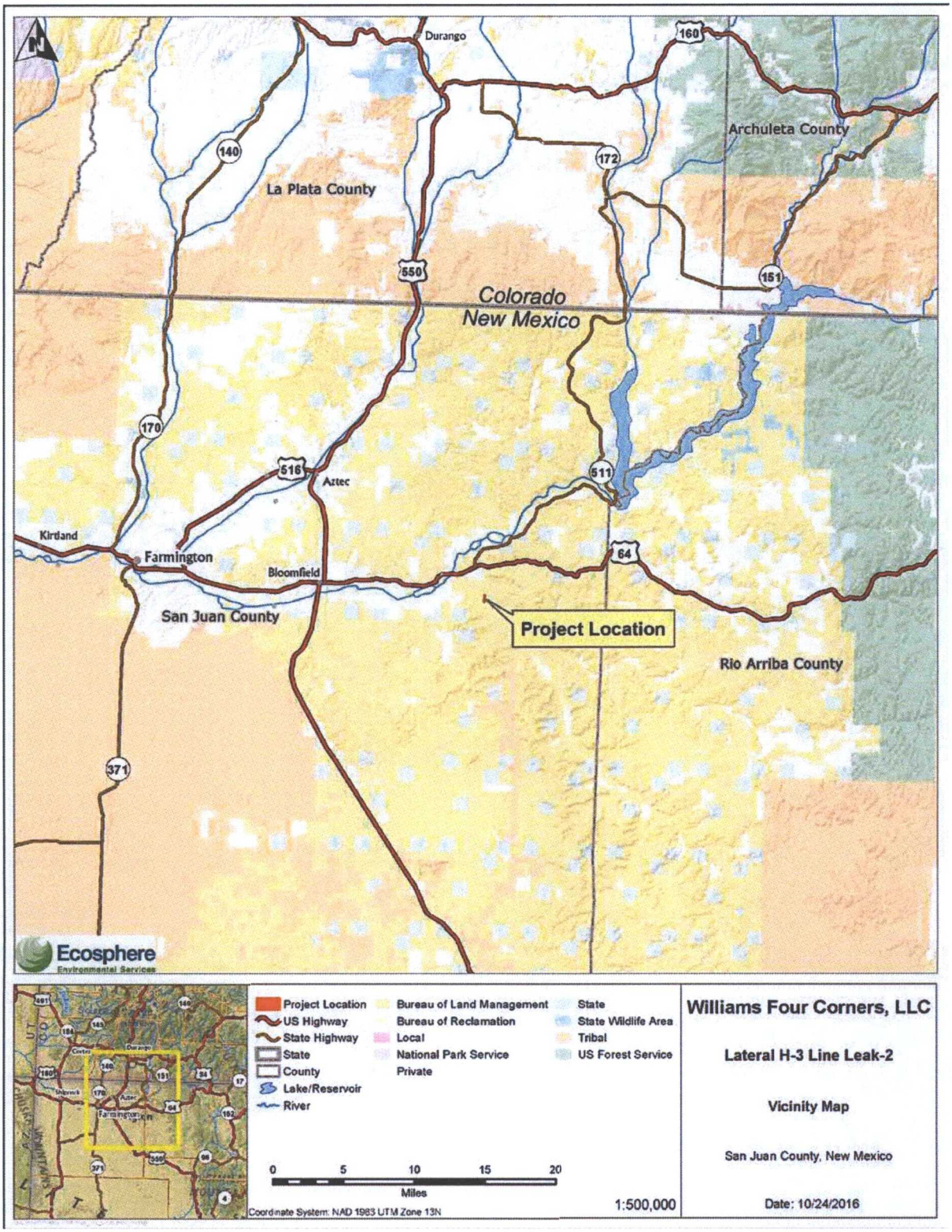
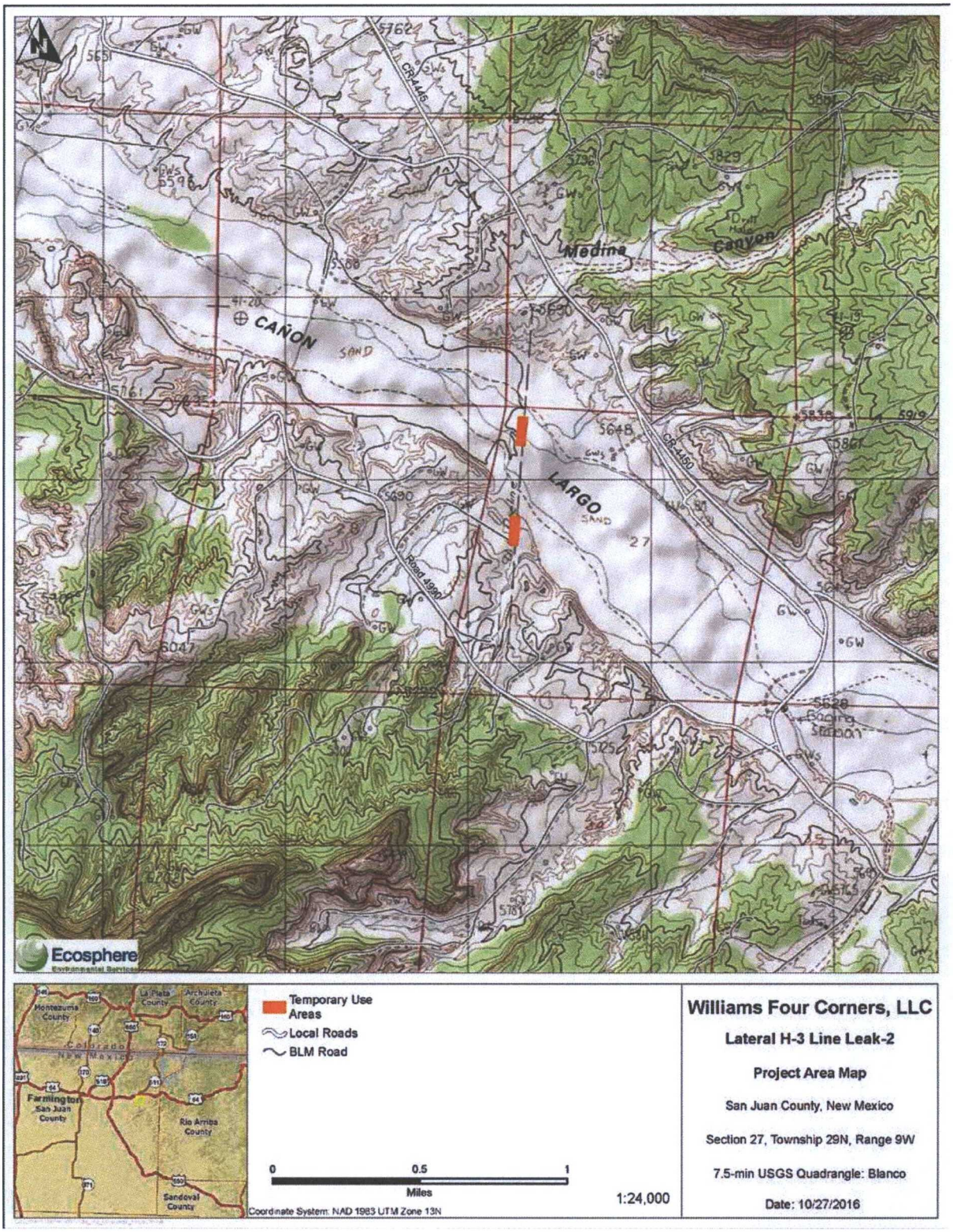
Appendix A - Maps



Map 1. Lateral H-3 Line Leak-2 Vicinity Map



Map 2. Lateral H-3 Line Leak-2 Project Area Map on USGS Quadrangle Map

Map 3. Lateral H-3 Line Leak-2 Site Detail Map

Appendix B – Biological Survey Report

From:	Brooke Herb
To:	Hannan, Michael
Subject:	[EXTERNAL] FW: Lateral H-3 Pipeline Repair
Date:	Wednesday, June 07, 2017 3:52:23 PM
Attachments:	image002.png image001.png image003.png image006.png image008.png

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Brooke Herb
Project Geologist/ Four Corners Office Manager

COMPLIANCE / ENGINEERING / REMEDIATION

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Join us on:

From: Diemer, Katherina [mailto:kdiemer@blm.gov]
Sent: Wednesday, March 22, 2017 2:17 PM
To: Brooke Herb <bherb@ltenv.com>
Cc: Leigh Thomas <l1thomas@blm.gov>; Faust, Tamara <tfaust@blm.gov>
Subject: Re: Lateral H-3 Pipeline Repair

Hello Brooke,

This will be fine thank you. Please let me know when you will conduct sampling and send

labs when you have them. Thank you!

Katherina

On Wed, Mar 22, 2017 at 1:18 PM, Brooke Herb <bherb@ltenv.com> wrote:

> Thank you Katherina. Since we are using an existing work plan will the BLM still require Williams to submit a new sampling plan prior to sampling activities? Or will the attached work plan and the text included below about the soil sampling suffice? The soil sampling at the tie-in locations is going to need to take place relatively soon as they are progressing with the line replacement and the soil sampling needs to happen while the bell holes are open.
>
> LT Environmental, Inc. (LTE), on behalf of Williams Four Corners LLC (Williams), will collect soil samples at the Lateral H-3 Pipeline Repair the week of March 27, 2017. Williams is currently replacing a 1,500 foot section of the Lateral H-3 pipeline where it crosses Largo Wash. One soil sample will be collected within 1 to 3 feet and downgradient of each location the existing line is cut per the requirement specified in the BLM Environmental Assessment dated December 2016. The soil samples will be collected in laboratory supplied glass 4-ounce jars. The soil will be packed to eliminate headspace and prevent degradation of the sample. Samples will be labeled with the date and time of collection, soil sampling identification, project name, sample collectors name, and parameters to be analyzed. Samples will be immediately sealed, packed on ice and transferred to Hall Environmental Analytical Laboratory in Albuquerque, New Mexico under chain of custody procedures. The soil samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) 8021B, and total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by USEPA Method 8015D.
>
> Groundwater samples will be collected to finalize delineation of potential groundwater impact from a former release per Williams proposed work plan submitted to and approved by the New Mexico Oil and Gas Conservation Division (attached).
>
> Williams will provide all sample results in a sampling report addressed to the BLM within 2 weeks of receiving analytical results.
>
> Thank you,
> Brooke
>
> Brooke Herb
> Project Geologist/ Four Corners Office Manager
>
> COMPLIANCE / ENGINEERING / REMEDIATION
>
> LT Environmental, Inc.
> 848 East Second Avenue

Durango, Colorado 81301
(970) 385-1096 office
(970) 403-6824 cell
(303) 433-1432 fax
www.ltenv.com
bherb@ltenv.com

Join us on:

From: Diemer, Katherina [mailto:kdiemer@blm.gov]
Sent: Wednesday, March 22, 2017 11:21 AM
To: Brooke Herb <bherb@ltenv.com>; Leigh Thomas <l1thomas@blm.gov>
Subject: Re: Lateral H-3 Pipeline Repair

Hello Brooke,

I have reviewed my notes from the meeting I had with Williams about the soil sampling. I agree with you that saturated soil would not be ideal to sample and will agree to water sampling per the plan approved by OCD. Please contact me with any questions or comments. Thank you!

On Wed, Mar 22, 2017 at 10:44 AM, Thomas, Leigh <l1thomas@blm.gov> wrote:

> ---------- Forwarded message ----------
> From: **Brooke Herb** <bherb@ltenv.com>
> Date: Wed, Mar 22, 2017 at 10:20 AM
> Subject: Lateral H-3 Pipeline Repair
> To: "Whitney Thomas (l1thomas@blm.gov)" <l1thomas@blm.gov>
>
> Whitney,
> Per our telephone conversation yesterday, I have attached Williams' proposed work plan approved by the NMOCD to finalize delineation of potential groundwater impact from a former release at the Lateral H-3 Pipeline and the BLM EA for the Lateral H-3 Pipeline Repair. Williams is planning to conduct the delineation concurrently with the pipeline repair and we believe the groundwater sampling proposed in the delineation will address some of the requirements in the BLM EA.
>
> The proposed work plan outlines the previously identified release and associated

sampling from March 2016. The workplan was approved by the OCD with the following conditions:

1. One sampling event rather than the two proposed.
2. Water samples for BTEX will use EPA Method 8260 please provide the full list of contaminants (see https://www.epa.gov/sites/production/files/2015-12/documents/8260b.pdf).
3. Coordinate sampling with Williams to provide notice to the OCD Aztec District Office at least 48 hour notice prior to collecting water samples.

The soil sampling requirements from the BLM related to the planned pipeline repair can be found on page 7 of the BLM's EA. Williams agrees to collecting the soil samples described in the first part of the paragraph: "*Samples should be taken within one to three feet (1-3) of the area cut and be taken below the grade of the existing pipe.*" The location and depth of the existing pipeline outside the banks of Largo Wash is above the depth of groundwater and shallow enough that we can get soil samples that are not saturated.

However, the second part of the requirements is what I wanted to discuss further with you: "*Additional soil samples will be required every fifty (50) feet along the replaced line and must be taken from a depth below the existing pipe. Sampling will be done to test for presence of hydrocarbons or contaminants that may have leaked from the line.*"

In a recent survey, Williams discovered that the existing pipeline was installed deeper within Largo Wash and is approximately 25 feet deep across the wash. When groundwater samples were collected in the wash during March of 2016 to investigate potential groundwater impact, the groundwater was observed to be between 3 and 5 feet below ground surface (bgs). Collecting a saturated soil sample beneath the pipeline at approximately 25 feet bgs will not only be difficult to accomplish, but will not provide an accurate representation of soil conditions. If BLM's goal is to investigate for hydrocarbons that may have leaked from the line, the most practical method to address that potential is to sample the groundwater rather than the soil. Because soil surrounding the pipeline at 25 feet bgs is saturated, any hydrocarbons released from the pipeline would impact groundwater and over time migrate upward and downgradient due to the difference in density between water and the light-end hydrocarbons. This was observed in the sample collected in March 2016, which was collected at the groundwater interface approximately 8 feet bgs containing 18 micrograms per liter of benzene. The work plan submitted to and approved by the NMOCD should be sufficient to identify potential residual impact from the previously identified pipeline release and Williams is proposing to BLM that the groundwater sampling plan approved by NMOCD replace the requirements to sample soil beneath the replaced pipeline in the BLM EA.

Please let me know if you have questions and give me a call once you have reviewed the information so we can discuss the best way to move forward.

Thank you,
Brooke Herb

Brooke Herb
Project Geologist/ Four Corners Office Manager

COMPLIANCE / ENGINEERING / REMEDIATION

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Durango, Colorado 81301
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Join us on:

--

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--

Katherina E Diemer
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--

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COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.

848 East 2nd Avenue
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

May 1, 2017

Mr. Michael Hannan
Williams Four Corners LLC
188 County Road 4900
Bloomfield, New Mexico 87413

RE: Soil Sampling Report
Williams Four Corners LLC
Lateral H-3 Pipeline Release
San Juan County, New Mexico

Dear Mr. Hannan:

LT Environmental, Inc. (LTE) is pleased to present to Williams Four Corners LLC (Williams) the following letter report detailing collection of soil samples near the replaced Lateral H-3 natural gas pipeline (Site) where it crosses Largo Canyon Wash in Section 27 of Township 29 North, Range 9 West in San Juan County, New Mexico (Figure 1). The purpose of the investigation was to confirm that there were no impacts to soil where Williams cut the existing natural gas pipeline and replaced it with a new section of pipeline in response to a release detected on February 5, 2016. The investigation was conducted at the request of the Bureau of Land Management (BLM) Farmington Field Office to investigate for impacts to soil during pipeline repair activities.

Site History and Background

On February 5, 2016, Williams personnel discovered a minor gas leak during a leak detection survey on the Lateral H-3 pipeline, which runs across Largo Canyon Wash, a prominent arroyo with consistent seasonal flows. No liquids or soil staining was observed on the ground surface. Williams immediately isolated the Lateral H-3 pipeline, which runs 20 feet to 25 feet below ground surface (bgs). Williams estimated the gas loss from a pinhole leak to be less than 50 thousand cubic feet (MCF). Williams provided verbal notification to the New Mexico Oil Conservation Division (NMOCD) and the BLM on February 6, 2016 and a C-141 Release Notification and Corrective Action Form was submitted to the NMOCD on February 11, 2016, with initial information on the release. An updated C-141 was submitted on March 1, 2016, after groundwater sampling was conducted. A work plan for further groundwater investigation was submitted to the NMOCD on March 15, 2016.

Williams applied for a temporary use permit with the BLM to conduct construction activities for the replacement of an approximately 1,500-foot section of pipeline where it crosses the wash. The BLM wrote an Environmental Assessment for the Site in December 2016 requesting collection of soil samples during pipeline repairs to investigate for potential unidentified impacts to soil. Due to the pipeline being below the groundwater table, the BLM agreed to allow Williams to conduct soil sampling at the pipeline tie-ins and not along the pipeline under the entire length of Largo Canyon Wash as originally requested. Additionally, Williams intends to investigate potential impacts to

groundwater in accordance with the work plan submitted to the NMOCD on March 15, 2016. A report of groundwater sampling will be submitted to NMOCD and BLM.

Soil Sampling

LTE collected two soil samples at the Site on April 14, 2017. The existing pipeline was cut per the requirement specified in the BLM Environmental Assessment dated December 2016. One soil sample was collected within 1 foot to 3 feet below and downgradient of the pipeline at each cut location (East Tie-In and West Tie-In). Field screening of each sample was conducted with a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. Soil samples were collected in pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. The samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Hall Environmental Analytical Laboratory Sciences (HEAL) in Albuquerque, New Mexico. The soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) 8021B, and total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by USEPA Method 8015D. Soil sample locations and results are depicted on Figure 2.

Field and Analytical Results

Based on the Site being within 200 feet of a surface water body, the NMOCD ranking criteria triggers the following remediation action levels: 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total BTEX, and 100 mg/kg for total TPH. No visual staining, hydrocarbon odors, and/or elevated field screening results were observed in either of the samples collected. Laboratory analytical results for East Tie-In and West Tie-In soil samples reported all analytes below laboratory detection limits. Analytical data are presented in Table 1, and the complete HEAL laboratory analytical report is included as Attachment 1.

LTE appreciates the opportunity to provide this work plan to Williams. If you have any questions or comments regarding this plan, do not hesitate to contact me at (970) 385-1096 or via email at bherb@ltenv.com.

Sincerely,
LT ENVIRONMENTAL, INC.

Brooke Herb
Project Geologist

Ashley L. Ager, M.S.
Senior Geologist

Attachments (4)

FIGURES

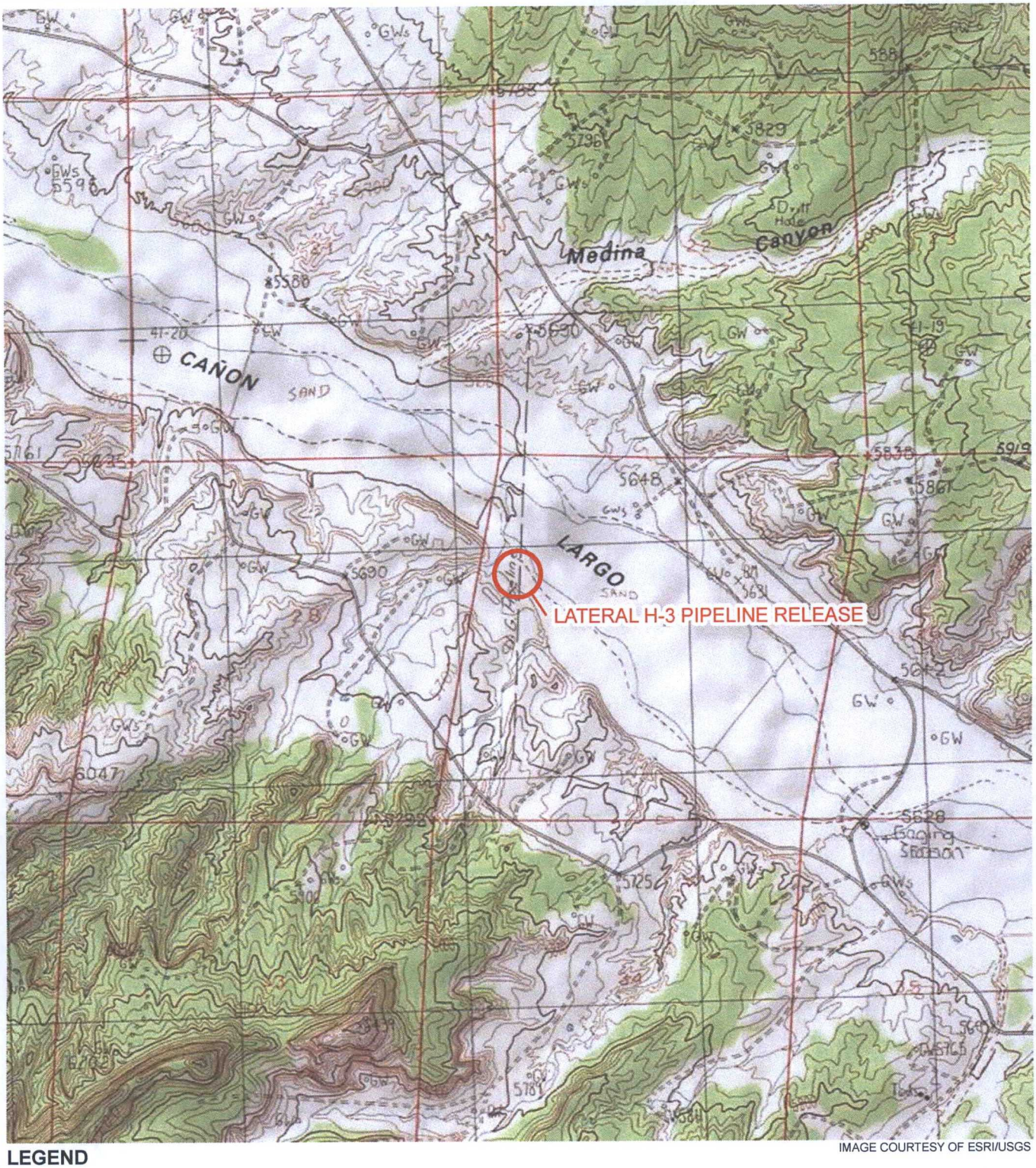


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
LATERAL H-3 PIPELINE RELEASE
SWNW SEC 27 T29N R9W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034016003_LATERAL H-3 PIPELINE RELEASE\034016003_LATERAL H-3_FIG01_SL.mxd

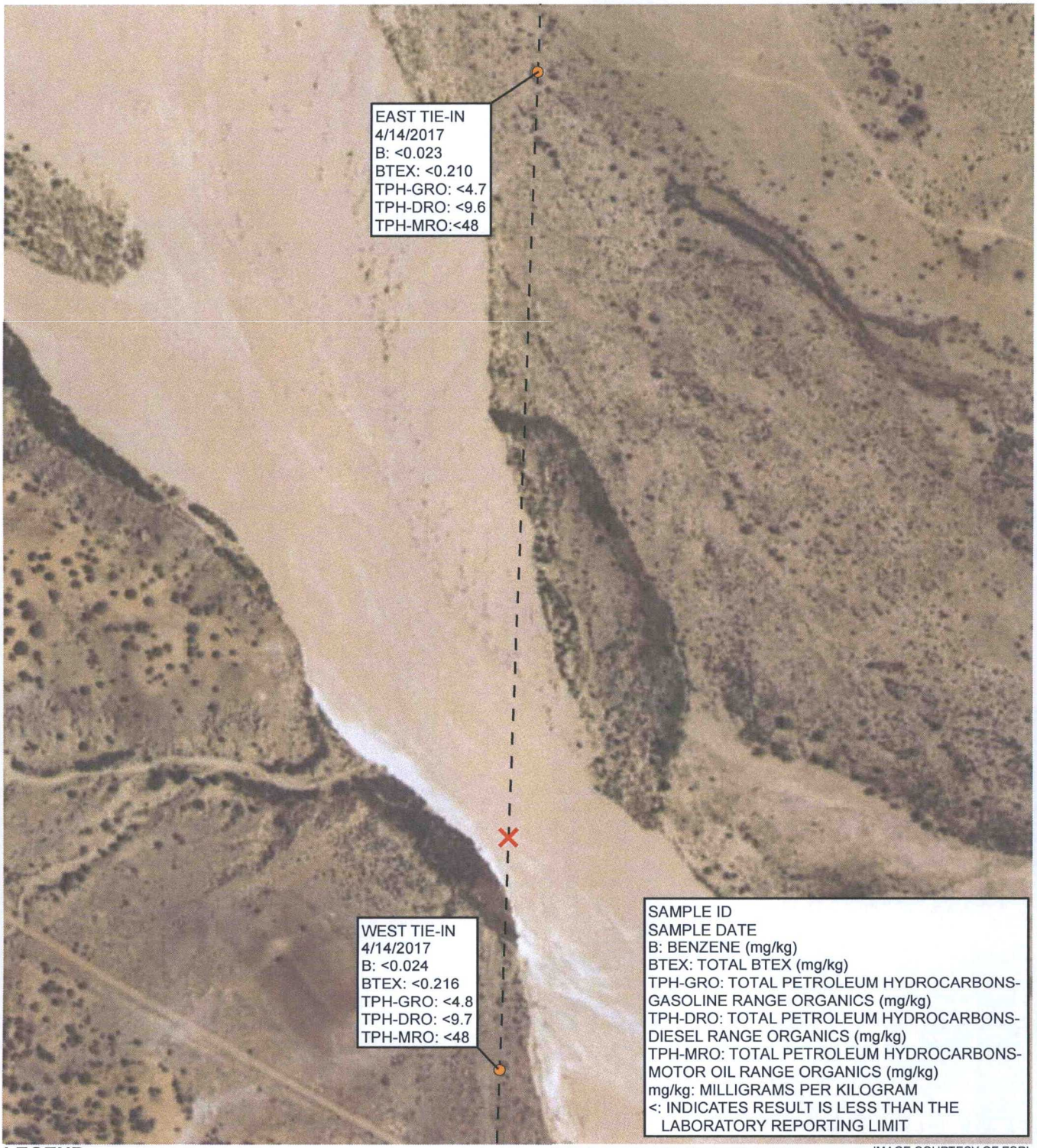


IMAGE COURTESY OF ESRI

LEGEND

- RELEASE LOCATION
- DISCRETE SOIL SAMPLE
- PIPELINE

0 300 600

Feet

N

FIGURE 2
SITE LOCATION MAP
LATERAL H-3 PIPELINE RELEASE
SWNW SEC 27 T29N R9W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034017003_LATERAL H-3\034017003_LATERAL H-3_FIG02_SITE.mxd

TABLE

TABLE 1
SOIL LABORATORY ANALYTICAL RESULTS

LATERAL H-3 PIPELINE RELEASE
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

Sample Name	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-MRO (mg/kg)
NMOCD Action Level		**10**	**NE**	**NE**	**NE**	**50**		**100**	
East Tie-In	4/14/2017	<0.023	<0.047	<0.047	<0.093	<0.210	<4.7	<9.6	<48
West Tie-In	4/14/2017	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.7	<48

Notes:
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilograms
MRO - motor oil range organics
NE - Not Established
NMOCD - New Mexico Oil Conservation Division
TPH - total petroleum hydrocarbons
Bold - indicates sample exceeds NMOCD action level
< - indicates result is less than laboratory reporting detection limit

ATTACHMENT 1

LABORATORY ANALYTICAL REPORT

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 20, 2017

Brooke Herb
Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Lateral H 3 OrderNo.: 1704678

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1704678**
Date Reported: **4/20/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H 3
Lab ID: 1704678-001 **Matrix:** SOIL

Client Sample ID: East Tie-In
Collection Date: 4/14/2017 10:25:00 AM
Received Date: 4/15/2017 9:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/19/2017 2:04:25 PM	31303
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/19/2017 2:04:25 PM	31303
Surr: DNOP	102	70-130		%Rec	1	4/19/2017 2:04:25 PM	31303
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/18/2017 10:04:15 PM	31284
Surr: BFB	93.3	54-150		%Rec	1	4/18/2017 10:04:15 PM	31284
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	4/18/2017 10:04:15 PM	31284
Toluene	ND	0.047		mg/Kg	1	4/18/2017 10:04:15 PM	31284
Ethylbenzene	ND	0.047		mg/Kg	1	4/18/2017 10:04:15 PM	31284
Xylenes, Total	ND	0.093		mg/Kg	1	4/18/2017 10:04:15 PM	31284
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	4/18/2017 10:04:15 PM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H 3
Lab ID: 1704678-002 **Matrix:** SOIL

Client Sample ID: West Tie-In
Collection Date: 4/14/2017 10:50:00 AM
Received Date: 4/15/2017 9:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/19/2017 3:11:16 PM	31303
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/19/2017 3:11:16 PM	31303
Surr: DNOP	103	70-130		%Rec	1	4/19/2017 3:11:16 PM	31303
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/18/2017 10:27:40 PM	31284
Surr: BFB	92.7	54-150		%Rec	1	4/18/2017 10:27:40 PM	31284
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	4/18/2017 10:27:40 PM	31284
Toluene	ND	0.048		mg/Kg	1	4/18/2017 10:27:40 PM	31284
Ethylbenzene	ND	0.048		mg/Kg	1	4/18/2017 10:27:40 PM	31284
Xylenes, Total	ND	0.096		mg/Kg	1	4/18/2017 10:27:40 PM	31284
Surr: 4-Bromofluorobenzene	107	66.6-132		%Rec	1	4/18/2017 10:27:40 PM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704678**

20-Apr-17

Client: Williams Four Corners

Project: Lateral H 3

Sample ID **MB-31303**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31303**	RunNo: **42210**
Prep Date: **4/18/2017**	Analysis Date: **4/19/2017**	SeqNo: **1325960** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.1		10.00		81.2	70	130			

Sample ID **LCS-31309**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31309**	RunNo: **42208**
Prep Date: **4/19/2017**	Analysis Date: **4/19/2017**	SeqNo: **1326052** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.6	70	130			

Sample ID **MB-31309**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31309**	RunNo: **42208**
Prep Date: **4/19/2017**	Analysis Date: **4/19/2017**	SeqNo: **1326053** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		104	70	130			

Sample ID **LCS-31303**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31303**	RunNo: **42210**
Prep Date: **4/18/2017**	Analysis Date: **4/19/2017**	SeqNo: **1326059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	83.0	63.8	116			
Surr: DNOP	4.3		5.000		85.0	70	130			

Sample ID **1704678-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **East Tie-In**	Batch ID: **31303**	RunNo: **42208**
Prep Date: **4/18/2017**	Analysis Date: **4/19/2017**	SeqNo: **1326957** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	49.85	0	97.4	51.6	130			
Surr: DNOP	4.7		4.985		94.9	70	130			

Sample ID **1704678-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **East Tie-In**	Batch ID: **31303**	RunNo: **42208**
Prep Date: **4/18/2017**	Analysis Date: **4/19/2017**	SeqNo: **1326958** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	8.9	44.60	0	100	51.6	130	8.27	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704678**

20-Apr-17

Client: Williams Four Corners

Project: Lateral H 3

Sample ID	**1704678-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**East Tie-In**	Batch ID:	**31303**		RunNo:	**42208**				
Prep Date:	**4/18/2017**	Analysis Date:	**4/19/2017**		SeqNo:	**1326958**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		4.460		95.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704678**

20-Apr-17

Client: Williams Four Corners
Project: Lateral H 3

Sample ID **MB-31284**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325839** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.1	54	150			

Sample ID **LCS-31284**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325840** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.1	76.4	125			
Surr: BFB	1000		1000		99.8	54	150			

Sample ID **1704678-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **West Tie-In**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325844** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.8	24.06	0	97.9	61.3	150			
Surr: BFB	970		962.5		101	54	150			

Sample ID **1704678-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **West Tie-In**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325845** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.41	0	99.4	61.3	150	2.99	20	
Surr: BFB	1000		976.6		102	54	150	0	0	

Sample ID **MB-31299**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **31299**	RunNo: **42221**
Prep Date: **4/18/2017**	Analysis Date: **4/19/2017**	SeqNo: **1326923** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.2	54	150			

Sample ID **LCS-31299**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **31299**	RunNo: **42221**
Prep Date: **4/18/2017**	Analysis Date: **4/19/2017**	SeqNo: **1326924** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	54	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704678**

20-Apr-17

Client: Williams Four Corners
Project: Lateral H 3

Sample ID **MB-31284**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325867** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	66.6	132			

Sample ID **LCS-31284**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325868** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.9	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

Sample ID **1704678-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **East Tie-In**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325871** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9569	0	119	61.5	138			
Toluene	1.1	0.048	0.9569	0	112	71.4	127			
Ethylbenzene	1.1	0.048	0.9569	0	113	70.9	132			
Xylenes, Total	3.0	0.096	2.871	0	103	76.2	123			
Surr: 4-Bromofluorobenzene	1.1		0.9569		114	66.6	132			

Sample ID **1704678-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **East Tie-In**	Batch ID: **31284**	RunNo: **42191**
Prep Date: **4/17/2017**	Analysis Date: **4/18/2017**	SeqNo: **1325872** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.024	0.9699	0	123	61.5	138	5.21	20	
Toluene	1.1	0.048	0.9699	0	114	71.4	127	3.36	20	
Ethylbenzene	1.1	0.048	0.9699	0	113	70.9	132	1.59	20	
Xylenes, Total	3.0	0.097	2.910	0	103	76.2	123	1.04	20	
Surr: 4-Bromofluorobenzene	1.1		0.9699		117	66.6	132	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704678**

20-Apr-17

Client: Williams Four Corners

Project: Lateral H 3

Sample ID	**MB-31299**	SampType: **MBLK**			TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID: **31299**			RunNo: **42221**					
Prep Date:	**4/18/2017**	Analysis Date: **4/19/2017**			SeqNo: **1326955**		Units: **%Rec**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene		1.1		1.000		111	66.6	132			

Sample ID	**LCS-31299**	SampType: **LCS**			TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID: **31299**			RunNo: **42221**					
Prep Date:	**4/18/2017**	Analysis Date: **4/19/2017**			SeqNo: **1326956**		Units: **%Rec**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene		1.2		1.000		115	66.6	132			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN Work Order Number: 1704678 RcptNo: 1

Received By: Lindsay Mangin 4/15/2017 9:15:00 AM

Completed By: Lindsay Mangin 4/17/2017 9:13:06 AM

Reviewed By: IO 4/17/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No	
9. Was preservative added to bottles?	Yes	No ✔	NA
10. VOA vials have zero headspace?	Yes	No	No VOA Vials ✔
11. Were any sample containers received broken?	Yes	No ✔	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client: Williams Four Corners
Michael S. Hannan
Mailing Address: 1755 Arroyo Dr
Bloomfield, NM 87413
Phone #: (505) 632-4807
email or Fax#: Michael.Hannan@Williams.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name: Lateral H-3
Project #: RFS: 65795-NXM99
Project Manager: Brooke Herb
Sampler: Michael A Wicker
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1704678	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4-14-17	1025	Soil	East Tie-In	2,4-oz Jar	Cool	-001	X		X													
↓	1050	↓	West Tie-In	↓	↓	-002	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-14-17	1317		Christine Walls	4/14/17	1317
4/14/17	1751	C. Walls		04/15/17	0915

Remarks: Please CC: BHerb@LTEnv.com
MWicker@LTEnv.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.

848 East 2nd Avenue
Durango, Colorado 81301
T 970.385.1096 / F 303.433.1432

June 2, 2017

Mr. Cory Smith
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Lateral H-3 Pipeline Release Subsurface Investigation Report
Williams Four Corners LLC
San Juan County, New Mexico

Dear Mr. Smith:

LT Environmental, Inc. (LTE), on behalf of Williams Four Corners LLC (Williams), conducted a subsurface investigation to assess potential residual impact to groundwater near the Lateral H-3 natural gas pipeline (Site) in Largo Canyon Wash in Section 27 of Township 29 North, Range 9 West in San Juan County, New Mexico (Figure 1). A pipeline release was detected by a Williams survey crew on February 5, 2016. This report provides details of the release and response activities and subsequent sampling to monitor elevated benzene concentrations detected in groundwater immediately after the release as documented on the C-141 Release Notification and Corrective Action Form submitted to the New Mexico Oil Conservation Division (NMOCD) on March 1, 2016.

Site Description and History

On February 5, 2016, Williams personnel discovered a minor gas leak during a leak detection survey on the Lateral H-3 pipeline, which extends across Largo Canyon Wash, a prominent arroyo with consistent seasonal flows. No liquids or soil staining was observed on the ground surface. Williams immediately isolated the Lateral H-3 pipeline, which is approximately 20 feet below ground surface (bgs). Williams estimated the gas loss from a pinhole leak to be less than 50 thousand cubic feet. Williams provided verbal notification to the NMOCD and the Bureau of Land Management (BLM) on February 6, 2016. A C-141 Release Notification and Corrective Action Form was submitted to the NMOCD on February 11, 2016, with initial information on the release. An updated C-141 was submitted on March 1, 2016, after groundwater sampling was conducted.

On February 19, 2016, Animas Environmental Services, on behalf of Williams, collected three groundwater grab samples from the Site using a manual hydropunch and disposable bailer. No staining or hydrocarbon odors were observed in the boreholes, which were advanced to 8 feet bgs. Groundwater was encountered at approximately 3 feet to 5 feet bgs. One groundwater sample was collected immediately adjacent to the pipeline release location (W-1), one approximately 30 feet upgradient of the pipeline (W-2), and one approximately 30 feet downgradient of the pipeline (W-3). No soil staining was observed in any of the boreholes. Groundwater samples were sent to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental

Protection Agency Method (USEPA) 8021B, total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO) by USEPA Method 8015D. The groundwater samples collected at the source and upgradient location did not contain detectable concentrations of BTEX, TPH-GRO, or TPH-DRO. The downgradient groundwater sample, W-3, exhibited a benzene concentration of 18 micrograms per liter (µg/L), which exceeds the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 µg/L. Groundwater sample locations are depicted on Figure 2. These results were reported in the work plan submitted to the NMOCD in March 2016.

Groundwater Sampling

On May 3, 2017, after the section of pipeline was replaced, LTE used a groundwater piezometer kit (hydropunch) to collect a groundwater sample at the same location as groundwater sample W-3 collected in February 2016. To confirm there was no downgradient impact, three additional groundwater samples (W-4, W-5, and W-6) downgradient of W-3 were collected using the same method. Sample locations are depicted on Figure 2. Soils above the groundwater table were predominantly composed of medium grained sand with silt. No visual staining, hydrocarbon odors, and/or sheen were observed. Groundwater was encountered at 1.5 feet bgs.

Groundwater grab samples were collected using disposable polyethylene tubing connected to a peristaltic pump. Prior to collecting the groundwater samples, the groundwater in each borehole was purged using the peristaltic pump until turbidity was reduced to the greatest extent possible. The groundwater samples were collected by filling three 40-milliliter glass vials. The laboratory-supplied vials were filled and capped with zero headspace to prevent degradation of the sample. Samples were labeled with the date and time of collection, groundwater sample identification, project name, sample collector's name, and parameters to be analyzed. Samples were immediately sealed, packed on ice, and transferred to HEAL under chain-of-custody (COC) procedures for analysis of BTEX using USEPA Method 8260B at the request of the NMOCD. The COC form was completed documenting the date and time sampled, sample number, type of sample, sample collector's name, preservative used (if any), analyses required, and sample collector's signature.

Groundwater Analytical Results

The following NMWQCC remediation standards apply at the Site per Section 20.6.2.3103A New Mexico Administration Code (NMAC): 10 µg/L for benzene, 750 µg/L for toluene, 750 µg/L for ethylbenzene, and 620 µg/L for total xylenes.

Laboratory analytical results for all groundwater samples indicated no concentrations of benzene, toluene, ethylbenzene, or total xylenes were detected. Additionally, no concentrations of any volatile organic compounds (VOCs) analyzed using EPA Method 8260B were detected. The analytical results are presented on Figure 2 and in Table 1, and the complete laboratory analytical report is included as Attachment 1.

Conclusions

Four groundwater samples were collected downgradient of the Lateral H-3 pipeline release to assess potential residual impact to groundwater following replacement of the leaking pipeline section. Laboratory analytical results indicated that the samples collected contained no detectable concentrations of VOCs. Based on these results, LTE on behalf of Williams requests a no further action determination from the NMOCD and BLM.

If you have any questions or comments regarding this report, do not hesitate to contact me at (970) 385-1096 or via email at bherb@ltenv.com.

Sincerely,
LT ENVIRONMENTAL, INC.

Brooke Herb
Project Geologist

Ashley L. Ager, M.S.
Senior Geologist

Cc:

Mr. Michael Hannan
Williams Four Corners LLC
Michael.Hannan@Williams.com

FIGURES

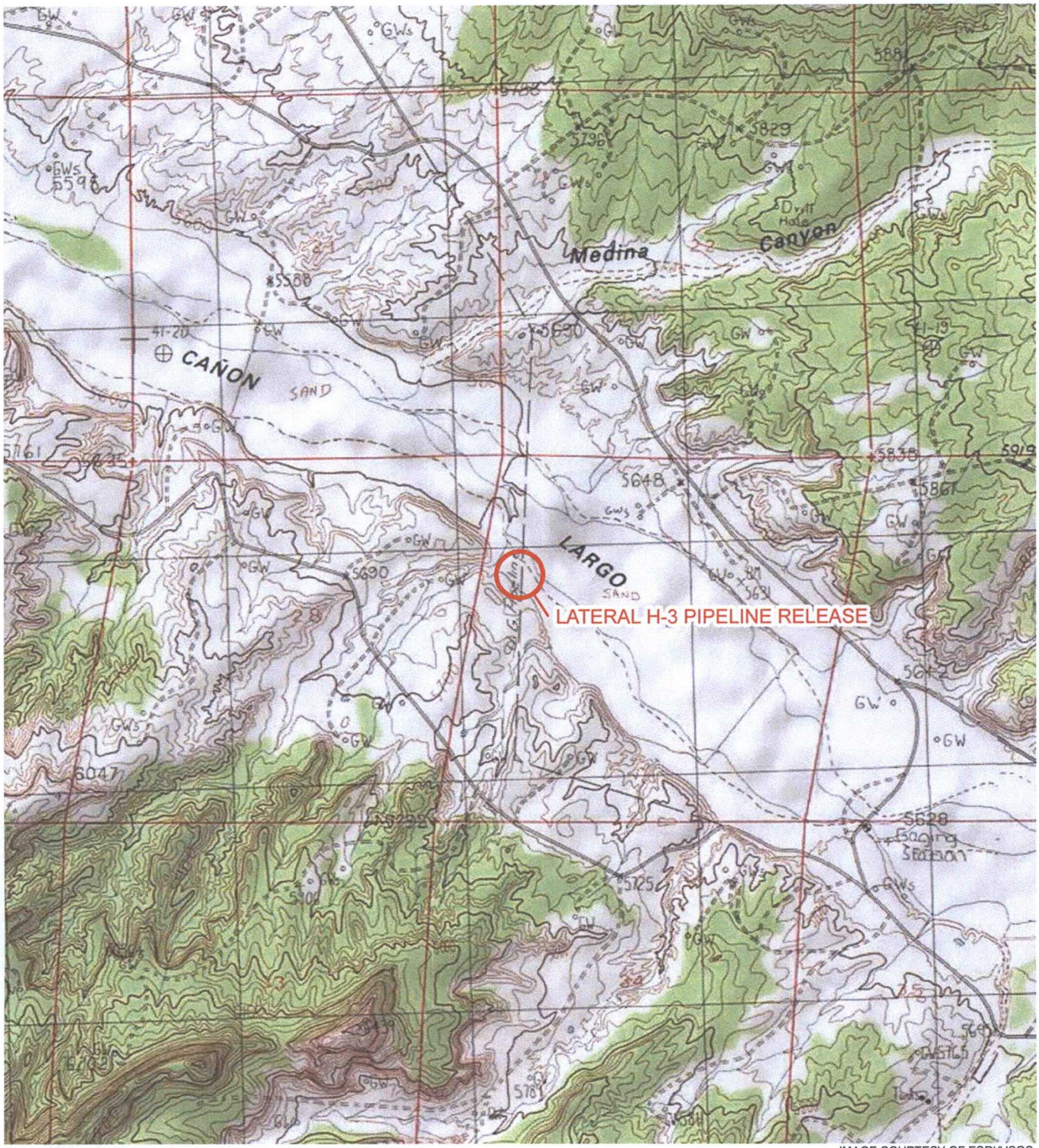


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

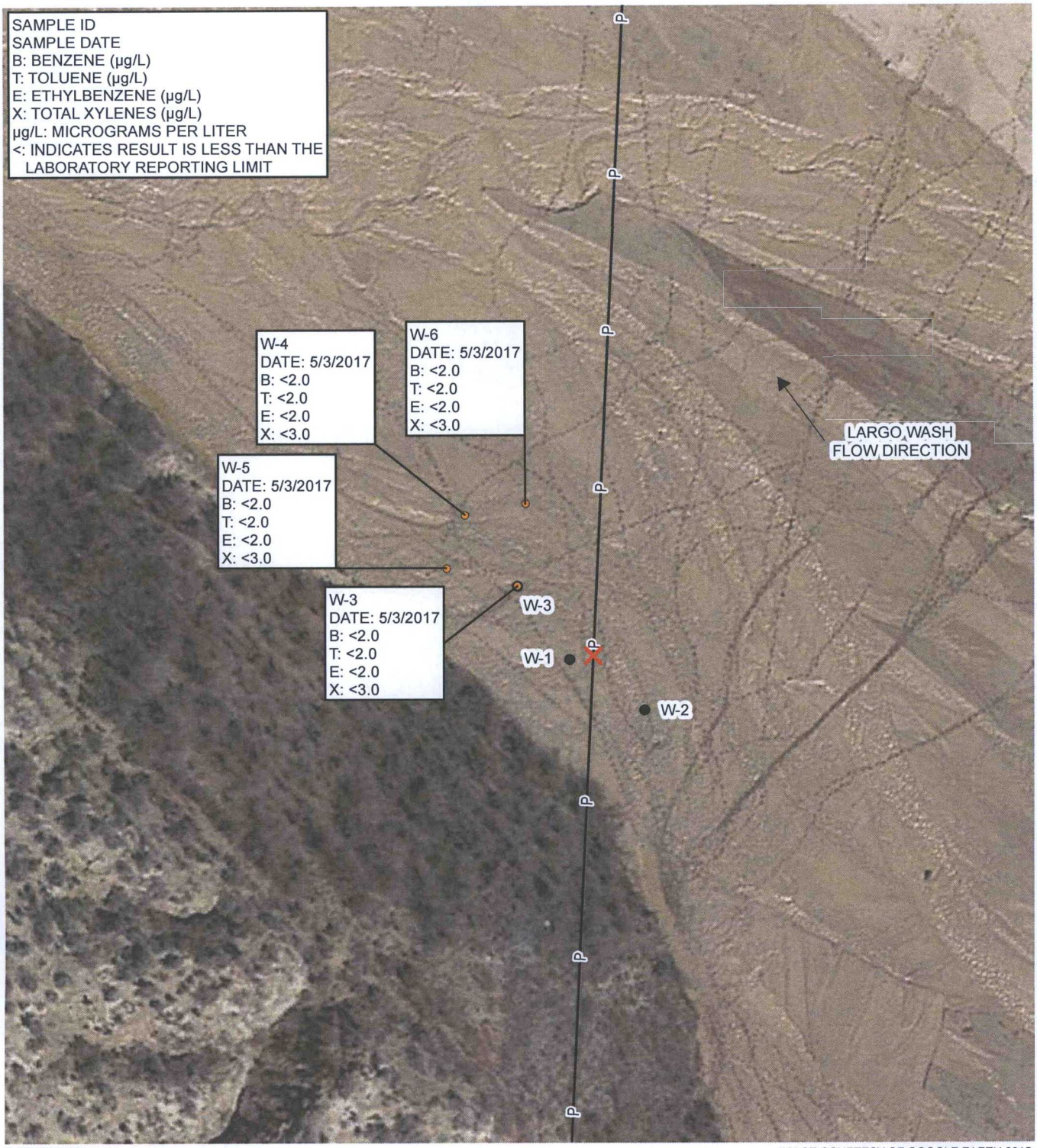
Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
LATERAL H-3 PIPELINE RELEASE
SWNW SEC 27 T29N R9W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034017007_LATERAL H-3 SUBSURFACE\034017007_LATERAL H-3_FIG01_SL.mxd



LEGEND

IMAGE COURTESY OF GOOGLE EARTH 2015

- APPROXIMATE RELEASE LOCATION
- APPROXIMATE LOCATION OF HYDROPUNCH SAMPLE (2/19/16)
- LOCATION OF HYDROPUNCH SAMPLE (LTE, 5/3/17)
- —P— APPROXIMATE LOCATION OF LATERAL H-3 PIPELINE

0 50 100
Feet

N

FIGURE 2
SITE MAP
LATERAL H-3 PIPELINE RELEASE
SWNW SEC 27 T29N R9W
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034017007_LATERAL H-3 SUBSURFACE\034017007_LATERAL H-3_FIG02_SITE_051917.mxd

TABLES

TABLE 1
GROUNDWATER ANALYTICAL RESULTS

LATERAL H-3 PIPELINE RELEASE
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

Analyte	NMWQCC Standard	Unit	W-3	W-4	W-5	W-6
			5/3/2017	5/3/2017	5/3/2017	5/3/2017
EPA Method 8260B: Volatiles						
benzene	10	µg/L	<2.0	<2.0	<2.0	<2.0
toluene	750	µg/L	<2.0	<2.0	<2.0	<2.0
ethylbenzene	750	µg/L	<2.0	<2.0	<2.0	<2.0
xylenes, total	620	µg/L	<3.0	<3.0	<3.0	<3.0
methyl tert-butyl ether (MTBE)	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,2,4-trimethylbenzene	620	µg/L	<2.0	<2.0	<2.0	<2.0
1,2,3-trimethylbenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,3,5-trimethylbenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,2-dichloroethane (EDC)	10	µg/L	<2.0	<2.0	<2.0	<2.0
1,2-dibromoethane (EDB)	0.1	µg/L	<2.0	<2.0	<2.0	<2.0
naphthalene	NE	µg/L	<4.0	<4.0	<4.0	<4.0
1-methylnaphthalene	NE	µg/L	<8.0	<8.0	<8.0	<8.0
2-methylnaphthalene	NE	µg/L	<8.0	<8.0	<8.0	<8.0
acetone	NE	µg/L	<2.0	<2.0	<2.0	<2.0
bromobenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
bromodichloromethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
bromoform	NE	µg/L	<2.0	<2.0	<2.0	<2.0
bromomethane	NE	µg/L	<6.0	<6.0	<6.0	<6.0
2-butanone	NE	µg/L	<2.0	<2.0	<2.0	<2.0
carbon disulfide	NE	µg/L	<2.0	<2.0	<2.0	<2.0
carbon tetrachloride	10	µg/L	<2.0	<2.0	<2.0	<2.0
chlorobenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
chloroethane	NE	µg/L	<4.0	<4.0	<4.0	<4.0
chloroform	100	µg/L	<2.0	<2.0	<2.0	<2.0
chloromethane	NE	µg/L	<6.0	<6.0	<6.0	<6.0
2-chlorotoluene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
4-chlorotoluene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
cis-1,2-DCE	NE	µg/L	<2.0	<2.0	<2.0	<2.0
cis-1,3-dichloropropene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,2-dibromo-3-chloropropane	NE	µg/L	<4.0	<4.0	<4.0	<4.0
dibromochloromethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
dibromomethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
dichlorodifluoromethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,1-dichloroethane	25	µg/L	<2.0	<2.0	<2.0	<2.0
1,1-dichloroethene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,2-dichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,3-dichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
2,2-dichloropropane	NE	µg/L	<4.0	<4.0	<4.0	<4.0
1,1-dichloropropene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
hexachlorobutadiene	NE	µg/L	<2.0	<2.0	<2.0	<2.0

TABLE 1
GROUNDWATER ANALYTICAL RESULTS

LATERAL H-3 PIPELINE RELEASE
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

Analyte	NMWQCC Standard	Unit	W-3	W-4	W-5	W-6
			5/3/2017	5/3/2017	5/3/2017	5/3/2017
EPA Method 8260B: Volatiles						
2-hexanone	NE	µg/L	<2.0	<2.0	<2.0	<2.0
isopropylbenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
4-isopropytoluene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
4-methyl-2-pentanone	NE	µg/L	<20	<20	<20	<20
methylene chloride	100	µg/L	<6.0	<6.0	<6.0	<6.0
n-butylbenzene	NE	µg/L	<6.0	<6.0	<6.0	<6.0
n-propylbenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
sec-butylbenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
styrene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
tert-butylbenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,1,1,2-tetrachloroethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,1,2,2-tetrachloroethane	10	µg/L	<4.0	<4.0	<4.0	<4.0
tetrachloroethene (PCE)	20	µg/L	<2.0	<2.0	<2.0	<2.0
trans-1,2-DCE	NE	µg/L	<2.0	<2.0	<2.0	<2.0
trans-1,3-dichloropropene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,2,3-trichlorobenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,2,4-trichlorobenzene	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,1,1-trichloroethane	600	µg/L	<2.0	<2.0	<2.0	<2.0
1,1,2-trichloroethane	10	µg/L	<2.0	<2.0	<2.0	<2.0
1,1,2-trichloroethene (TCE)	100	µg/L	<2.0	<2.0	<2.0	<2.0
trichlorofluoromethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0
1,2,3-trichloropropane	NE	µg/L	<4.0	<4.0	<4.0	<4.0
vinyl chloride	1	µg/L	<1.0	<1.0	<1.0	<1.0

Notes:

EPA - United States Environmental Protection Agency

µg/L - micrograms per liter

NE - not established

NMWQCC - New Mexico Water Quality Control Commission

< - indicates result is less than the stated laboratory reporting limit

ATTACHMENT 1

LABORATORY ANALYTICAL REPORT

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 02, 2017

Brooke Herb

Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Lateral H-3 Pipeline Release OrderNo.: 1705232

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/4/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued May 09, 2017.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release
Lab Order: 1705232

Lab ID: 1705232-001
Client Sample ID: W-3
Collection Date: 5/3/2017 11:55:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Toluene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Ethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Naphthalene	ND	4.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
2-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Acetone	ND	20	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Bromobenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Bromodichloromethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Bromoform	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Bromomethane	ND	6.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
2-Butanone	ND	20	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Carbon disulfide	ND	20	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Carbon Tetrachloride	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Chlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Chloroethane	ND	4.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Chloroform	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Chloromethane	ND	6.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
2-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
4-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
cis-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Dibromochloromethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Dibromomethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,1-Dichloroethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,1-Dichloroethene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,2-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267
1,3-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R4267

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release

Lab Order: 1705232

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

2,2-Dichloropropane	ND	4.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,1-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Hexachlorobutadiene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
2-Hexanone	ND	20	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Isopropylbenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
4-Isopropyltoluene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
4-Methyl-2-pentanone	ND	20	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Methylene Chloride	ND	6.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
n-Butylbenzene	ND	6.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
n-Propylbenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
sec-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Styrene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
tert-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
trans-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Trichlorofluoromethane	ND	2.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Vinyl chloride	ND	1.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Xylenes, Total	ND	3.0	D	µg/L	2	5/9/2017 4:55:52 PM	R42674
Surr: 1,2-Dichloroethane-d4	100	70-130	D	%Rec	2	5/9/2017 4:55:52 PM	R42674
Surr: 4-Bromofluorobenzene	96.5	70-130	D	%Rec	2	5/9/2017 4:55:52 PM	R42674
Surr: Dibromofluoromethane	105	70-130	D	%Rec	2	5/9/2017 4:55:52 PM	R42674
Surr: Toluene-d8	100	70-130	D	%Rec	2	5/9/2017 4:55:52 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release

Lab Order: 1705232

Lab ID: 1705232-002
Client Sample ID: W-4

Collection Date: 5/3/2017 11:45:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Toluene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Ethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Naphthalene	ND	4.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
2-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Acetone	ND	20	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Bromobenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Bromodichloromethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Bromoform	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Bromomethane	ND	6.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
2-Butanone	ND	20	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Carbon disulfide	ND	20	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Carbon Tetrachloride	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Chlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Chloroethane	ND	4.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Chloroform	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Chloromethane	ND	6.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
2-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
4-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
cis-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Dibromochloromethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Dibromomethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,1-Dichloroethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,1-Dichloroethene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,3-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release
Lab Order: 1705232

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

2,2-Dichloropropane	ND	4.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,1-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Hexachlorobutadiene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
2-Hexanone	ND	20	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Isopropylbenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
4-Isopropyltoluene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
4-Methyl-2-pentanone	ND	20	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Methylene Chloride	ND	6.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
n-Butylbenzene	ND	6.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
n-Propylbenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
sec-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Styrene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
tert-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
trans-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Trichlorofluoromethane	ND	2.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Vinyl chloride	ND	1.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Xylenes, Total	ND	3.0	D	µg/L	2	5/9/2017 5:24:55 PM	R42674
Surr: 1,2-Dichloroethane-d4	98.6	70-130	D	%Rec	2	5/9/2017 5:24:55 PM	R42674
Surr: 4-Bromofluorobenzene	100	70-130	D	%Rec	2	5/9/2017 5:24:55 PM	R42674
Surr: Dibromofluoromethane	104	70-130	D	%Rec	2	5/9/2017 5:24:55 PM	R42674
Surr: Toluene-d8	97.2	70-130	D	%Rec	2	5/9/2017 5:24:55 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release
Lab Order: 1705232

Lab ID: 1705232-003
Client Sample ID: W-5
Collection Date: 5/3/2017 11:05:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Toluene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Ethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Naphthalene	ND	4.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
2-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Acetone	ND	20	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Bromobenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Bromodichloromethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Bromoform	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Bromomethane	ND	6.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
2-Butanone	ND	20	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Carbon disulfide	ND	20	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Carbon Tetrachloride	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Chlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Chloroethane	ND	4.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Chloroform	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Chloromethane	ND	6.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
2-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
4-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
cis-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Dibromochloromethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Dibromomethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,1-Dichloroethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,1-Dichloroethene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,3-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release

Lab Order: 1705232

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

2,2-Dichloropropane	ND	4.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,1-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Hexachlorobutadiene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
2-Hexanone	ND	20	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Isopropylbenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
4-Isopropyltoluene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
4-Methyl-2-pentanone	ND	20	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Methylene Chloride	ND	6.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
n-Butylbenzene	ND	6.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
n-Propylbenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
sec-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Styrene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
tert-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
trans-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Trichlorofluoromethane	ND	2.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Vinyl chloride	ND	1.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Xylenes, Total	ND	3.0	D	µg/L	2	5/9/2017 6:50:14 PM	R42674
Surr: 1,2-Dichloroethane-d4	103	70-130	D	%Rec	2	5/9/2017 6:50:14 PM	R42674
Surr: 4-Bromofluorobenzene	98.4	70-130	D	%Rec	2	5/9/2017 6:50:14 PM	R42674
Surr: Dibromofluoromethane	106	70-130	D	%Rec	2	5/9/2017 6:50:14 PM	R42674
Surr: Toluene-d8	99.3	70-130	D	%Rec	2	5/9/2017 6:50:14 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release
Lab Order: 1705232

Lab ID: 1705232-004
Client Sample ID: W-6
Collection Date: 5/3/2017 10:40:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Toluene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Ethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Naphthalene	ND	4.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
2-Methylnaphthalene	ND	8.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Acetone	ND	20	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Bromobenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Bromodichloromethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Bromoform	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Bromomethane	ND	6.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
2-Butanone	ND	20	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Carbon disulfide	ND	20	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Carbon Tetrachloride	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Chlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Chloroethane	ND	4.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Chloroform	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Chloromethane	ND	6.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
2-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
4-Chlorotoluene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
cis-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Dibromochloromethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Dibromomethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,1-Dichloroethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,1-Dichloroethene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,2-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267
1,3-Dichloropropane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R4267

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release

Lab Order: 1705232

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

2,2-Dichloropropane	ND	4.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,1-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Hexachlorobutadiene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
2-Hexanone	ND	20	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Isopropylbenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
4-Isopropyltoluene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
4-Methyl-2-pentanone	ND	20	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Methylene Chloride	ND	6.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
n-Butylbenzene	ND	6.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
n-Propylbenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
sec-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Styrene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
tert-Butylbenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
trans-1,2-DCE	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Trichlorofluoromethane	ND	2.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Vinyl chloride	ND	1.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Xylenes, Total	ND	3.0	D	µg/L	2	5/9/2017 7:19:08 PM	R42674
Surr: 1,2-Dichloroethane-d4	97.1	70-130	D	%Rec	2	5/9/2017 7:19:08 PM	R42674
Surr: 4-Bromofluorobenzene	101	70-130	D	%Rec	2	5/9/2017 7:19:08 PM	R42674
Surr: Dibromofluoromethane	104	70-130	D	%Rec	2	5/9/2017 7:19:08 PM	R42674
Surr: Toluene-d8	101	70-130	D	%Rec	2	5/9/2017 7:19:08 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release
Lab Order: 1705232

Lab ID: 1705232-005
Collection Date:
Client Sample ID: Trip Blank
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Toluene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Ethylbenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Naphthalene	ND	2.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
2-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Acetone	ND	10		µg/L	1	5/9/2017 7:47:28 PM	R42674
Bromobenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Bromodichloromethane	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Bromoform	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Bromomethane	ND	3.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
2-Butanone	ND	10		µg/L	1	5/9/2017 7:47:28 PM	R42674
Carbon disulfide	ND	10		µg/L	1	5/9/2017 7:47:28 PM	R42674
Carbon Tetrachloride	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Chlorobenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Chloroethane	ND	2.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Chloroform	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Chloromethane	ND	3.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
2-Chlorotoluene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
4-Chlorotoluene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
cis-1,2-DCE	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Dibromochloromethane	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Dibromomethane	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,1-Dichloroethane	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,1-Dichloroethene	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2-Dichloropropane	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674
1,3-Dichloropropane	ND	1.0		µg/L	1	5/9/2017 7:47:28 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Project: Lateral H-3 Pipeline Release

Lab Order: 1705232

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

2,2-Dichloropropane	ND	2.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,1-Dichloropropene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
Hexachlorobutadiene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
2-Hexanone	ND	10	µg/L	1	5/9/2017 7:47:28 PM	R42674
Isopropylbenzene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
4-Isopropyltoluene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
4-Methyl-2-pentanone	ND	10	µg/L	1	5/9/2017 7:47:28 PM	R42674
Methylene Chloride	ND	3.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
n-Butylbenzene	ND	3.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
n-Propylbenzene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
sec-Butylbenzene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
Styrene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
tert-Butylbenzene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
trans-1,2-DCE	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,1,1-Trichloroethane	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,1,2-Trichloroethane	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
Trichloroethene (TCE)	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
Trichlorofluoromethane	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
1,2,3-Trichloropropane	ND	2.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
Vinyl chloride	ND	1.0	µg/L	1	5/9/2017 7:47:28 PM	R42674
Xylenes, Total	ND	1.5	µg/L	1	5/9/2017 7:47:28 PM	R42674
Surr: 1,2-Dichloroethane-d4	98.3	70-130	%Rec	1	5/9/2017 7:47:28 PM	R42674
Surr: 4-Bromofluorobenzene	99.0	70-130	%Rec	1	5/9/2017 7:47:28 PM	R42674
Surr: Dibromofluoromethane	103	70-130	%Rec	1	5/9/2017 7:47:28 PM	R42674
Surr: Toluene-d8	98.9	70-130	%Rec	1	5/9/2017 7:47:28 PM	R42674

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1705232**

02-Jun-17

Client: Williams Four Corners

Project: Lateral H-3 Pipeline Release

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R42674**	RunNo: **42674**
Prep Date:	Analysis Date: **5/9/2017**	SeqNo: **1342657** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.3	70	130			
Toluene	20	1.0	20.00	0	98.3	70	130			
Chlorobenzene	19	1.0	20.00	0	95.9	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.1	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.4	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Sample ID **1705232-002a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **W-4**	Batch ID: **R42674**	RunNo: **42674**
Prep Date:	Analysis Date: **5/9/2017**	SeqNo: **1342660** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	43	2.0	40.00	0	107	70	130			D
Toluene	40	2.0	40.00	0	99.4	70	130			D
Chlorobenzene	39	2.0	40.00	0	98.7	70	130			D
1,1-Dichloroethene	45	2.0	40.00	0	113	70	130			D
Trichloroethene (TCE)	41	2.0	40.00	0	103	70	130			D
Surr: 1,2-Dichloroethane-d4	20		20.00		101	70	130			D
Surr: 4-Bromofluorobenzene	20		20.00		97.6	70	130			D
Surr: Dibromofluoromethane	22		20.00		110	70	130			D
Surr: Toluene-d8	20		20.00		101	70	130			D

Sample ID **1705232-002a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **W-4**	Batch ID: **R42674**	RunNo: **42674**
Prep Date:	Analysis Date: **5/9/2017**	SeqNo: **1342661** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	42	2.0	40.00	0	104	70	130	2.38	20	D
Toluene	39	2.0	40.00	0	96.3	70	130	3.20	20	D
Chlorobenzene	39	2.0	40.00	0	97.4	70	130	1.24	20	D
1,1-Dichloroethene	42	2.0	40.00	0	106	70	130	6.50	20	D
Trichloroethene (TCE)	39	2.0	40.00	0	98.7	70	130	4.06	20	D
Surr: 1,2-Dichloroethane-d4	20		20.00		101	70	130	0	0	D
Surr: 4-Bromofluorobenzene	20		20.00		98.5	70	130	0	0	D
Surr: Dibromofluoromethane	22		20.00		109	70	130	0	0	D
Surr: Toluene-d8	20		20.00		101	70	130	0	0	D

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1705232**

02-Jun-17

Client: Williams Four Corners

Project: Lateral H-3 Pipeline Release

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R42674**	RunNo: **42674**
Prep Date:	Analysis Date: **5/9/2017**	SeqNo: **1342667** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1705232**

02-Jun-17

Client: Williams Four Corners

Project: Lateral H-3 Pipeline Release

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R42674**	RunNo: **42674**
Prep Date:	Analysis Date: **5/9/2017**	SeqNo: **1342667** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN Work Order Number: 1705232 RcptNo: 1

Received By: Ashley Gallegos 5/4/2017 7:00:00 AM

Completed By: Andy Jansson 5/4/2017 9:52:27 AM

Reviewed By: ENM 05/04/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

Chain-of-Custody Record

Client: Michael Hannan
Williams Four Corners
Mailing Address: 1755 Arroyo Drive
Bloomfield, NM 87413
Phone #: (505) 632-4807
email or Fax#: Michael.Hannan@Williams.com
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name:
Lateral H-3 Pipeline Release
Project #:
RFS # 657195-NXM99
Project Manager:
Brooke Herb
Sampler: Daniel Burns / Michael Wicker
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.1 + 0.5 = 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1705232	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
5-3-17	1155	AQ	W-3	3-VOA	HCl	-001	X											
↓	1145	↓	W-4	↓	↓	-002	↓											
	1105		W-5			-003												
	1040		W-6			-004												
—	—	—	Trip Blank		HCl	-005	X											

Date:	Time:	Relinquished by:	Received by:	Date	Time
5-3-17	1303		Chad Hall	5/3/17	1303
5/3/17	1858		Kathleen M Gallegos	05/04/17	0700

Remarks: Please CC Results to:
Brooke (BHerb@LTEnv.com)
DBurns@LTEnv.com
MWicker@LTEnv.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.